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# 3

## “Organic” and “Organism” in Franz Bopp

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The early nineteenth century is associated in most histories of linguistics with two specific developments: (1) a new conception of language and linguistic work heavily influenced by scientific concepts, taken mostly from the biological sciences, and (2) the creation (if that is the correct word) of comparative and historical grammar. Language in the immediately pre-Romantic, Romantic, and post-Romantic eras is treated as an organism endowed with a life of its own; “organic” is contrasted with “mechanical” and becomes an adjective of praise; terms like growth, decay, weakening, flowering, and branching are in current use in any linguistic discussion; words and roots are said to be related or cognate, and a full set of kinship terms is used to describe the relationship of languages;<sup>1</sup> the comparison between *vergleichende Anatomie* and *vergleichende Sprachwissenschaft*, made famous by Friedrich Schlegel in 1808, becomes commonplace. At the same time, comparative and historical grammars introduce or emphasize a technical and systematic aspect in the subject. It becomes possible to write under the heading *Sprachwissenschaft* highly technical works that are deemed to be as important as the more general essays about the nature and origin of language.<sup>2</sup>

Historiography is now confronted with a series of questions. First, a problem of interpretation: what is the value and meaning of the organic terminology that appears so frequently in any linguistic, and nonlinguistic, discussion? Secondly, what is the connection, if any, between the new organic conception of language and the new “technical” work that characterizes the beginning of comparative and historical linguistics? I leave aside the third important question: what is the origin of this organic explosion in linguistics?

"Organic" and "organism" in nineteenth-century linguistics have often been discussed. The meaning of the words varies according to the authors and often within works of the same author. Organism can be understood in a number of ways. People can refer to the living and developing aspect of the linguistic entity; they can stress the organized nature of the whole, where the emphasis is on the whole as different from the sum of its parts (if this is a meaningful statement); they can concentrate on the functional aspect of the constitutive parts of the organism. Other interpretations are possible.<sup>3</sup> Most of what is important has been said, and I propose to concentrate on my second question: How far does the organic conception of language determine or underlie or simply influence the technical work I mentioned? The question—or its answer—may be of more general import. In a discipline like nineteenth-century linguistics, which oscillates somewhat uneasily between technical work and theoretical discussion, what is the link between theory and practice? Do scholars do what they say they are doing? And do their theories match what they do or what they say they are doing?

The problems I have mentioned are wide-ranging, but they cannot be discussed in a vacuum. In the first instance at least, one must concentrate on a specific case that is taken to be important or representative. Here I shall discuss the work of Franz Bopp (1791–1867), a scholar who rightly or wrongly has been hailed as the founder of comparative and historical linguistics. As the author of the first comparative grammar of the Indo-European languages (1833), Bopp counts as the first and foremost of the "technicians."

Franz Bopp is now a controversial figure. The exalted status attributed to him by his followers has been challenged both on the ground that the so-called conquests of the nineteenth century were an instance of regress rather than progress, and paradoxically on the ground that the greatness of nineteenth-century linguistics is such that it deserves a more profound thinker as an initiator: Friedrich Schlegel or Wilhelm von Humboldt, but not Bopp.<sup>4</sup> Questions of priority or status are irrelevant to my theme, but a correct interpretation of Bopp's views is important, and that too is controversial. As one of the "founders" of comparative linguistics, Bopp automatically qualifies as an exponent of Romanticism like Friedrich Schlegel and Jacob Grimm, but it has been correctly argued that his outlook is much more that of a rationalist. He is interested in understanding the logical structure of language and is closer to Leibniz and the *Grammaire de Port Royal* than to Herder and Friedrich Schlegel (Verburg 1950; Timpanaro 1973). The uncertainty is not dissimilar from that which surrounds Humboldt, but Bopp's simpler personality ought to make it easier to find a label for his views than for those of Humboldt.

We are better informed about Bopp's progress than we used to be.<sup>5</sup> There is little doubt that he came to comparative work because of his interest in ori-

ental languages in general and in Sanskrit in particular, and that at least at first he was heavily influenced by Friedrich Schlegel's *Über die Sprache und Weisheit der Indier* (1808), with its emphasis on a *vergleichende Grammatik* that "would lead to new conclusions about the genealogy of languages in the same way in which *vergleichende Anatomie* had thrown light on *höhere Naturgeschichte*" (Schlegel 1808, p. 25).<sup>6</sup> Friedrich Schlegel used a wealth of organic metaphors in his discussion, but he also distinguished between organic and inorganic languages (i.e., in practice, between the Indo-European languages and all the others) and excluded any link between the two types. Organic languages could only decay from a state of perfection; the other languages improved but never reached organicity. The distinction was based on the nature of the roots. For Schlegel, organic roots were living germs ready to unfold into inflections that indicated the grammatical status of a word. The inorganic languages expressed their grammatical connections "merely" through the juxtaposition of roots. Bopp at first accepted this view and what it presupposed, but already in his first book (1816) he is more critical. The stated purpose of the 1816 work is to discuss the origin of the verbal inflection in the Indo-European languages. The conclusion is that verbal inflection arises in two ways, either by spontaneous alteration or growth of the roots (i.e., organically) or, more frequently, by composition of the verbal stems with other roots, verbal or pronominal. By 1820, Bopp has moved further. Organic inflection is now clearly defined: it refers to reduplication and vocalic alternation in the root, but not to endings and suffixes in general. Still later, Bopp concludes that vocalic alternation too is automatically or mechanically conditioned by the nature of the endings and, at an early stage at least, does not have any grammatical significance. For the mature Bopp, all inflection of the parent language originated in composition. Friedrich Schlegel's theory of the root is dismissed, and so is the distinction between organic and inorganic languages.

So much is known (see Delbrück 1880, pp. 3 ff.; Bréal 1866-1872, 1: xxi ff.; Verburg 1950; Timpanaro 1973), but there are reasons for rehearsing an old story. First, the way in which Bopp proceeds in his attack against Friedrich Schlegel is important for an understanding of his method. His main concern, at the beginning, is to define more clearly the somewhat nebulous concept of organic root. To make it meaningful, he restricts its reference to roots with reduplication and vocalic alternation, and only then does he conclude that Schlegel's typological classification is untenable. It is not supported by the data, because the Indo-European languages have other types of inflection. Also, if the parent language had been "organic" in Schlegel's sense, it could not have functioned as a language. Since the roots were monosyllabic, the possible vocalic alternations would not have been sufficient to indicate all grammatical distinctions.<sup>7</sup> Secondly, it is obvious that we cannot seriously ask

what role the concept of organism played in Bopp's work unless we first define his position versus Friedrich Schlegel's theory of the root. *A priori*, we might expect a great number of organic metaphors and organic concepts in the early works, followed by a different attitude after the rejection of Schlegel's views.<sup>8</sup>

In fact, soon after 1816 Bopp stops referring to organic roots and organic languages, yet language is still treated as an organism, and organic metaphors are very frequent. Are we dealing with meaningless words due to the prevailing fashion, or did Bopp really subscribe to a conception of language which is best expressed in organic terms? Bopp's own work was of a very technical nature; if the second hypothesis is correct, what is the connection between Bopp's technical work and his theoretical assumptions?

We can look first at some of the general statements. In 1824, after the final rejection of Schlegel's theory and in the first of the articles that formed the basis for the *Vergleichende Grammatik*, Bopp argues that as time progresses love of euphony gains influence in languages because it is not stopped by a clear feeling for the meaning of individual linguistic elements and because "the branches and ramifications which, as it were, sprouted forth organically in the full life of the language gradually die off and, after they have become a dead mass, can be removed, though the body, which still lives, does not feel this loss."<sup>9</sup> A little later we have the famous passage that appears at the beginning of Bopp's review of Grimm's work (1836; originally published in 1827):

Languages must be taken as organic natural bodies which form themselves according to definite laws, develop carrying in themselves an internal life principle, and gradually die, since they do not understand themselves any longer and shed or mutilate or misuse, i.e., use for purposes for which they were not originally meant, members and forms which initially were significant, but in time have become a mass of largely external nature.<sup>10</sup>

Still later, in the newly published *Vergleichende Grammatik* (1833), we are told that the purpose of the work is to produce "a comparative description of the organism of all languages mentioned in the title summing up all related facts, an investigation of their physical and mechanical laws and of the origin of the forms which indicate grammatical relations."<sup>11</sup>

In the same book, Bopp rejects once again Friedrich Schlegel's classification of languages into organic and inorganic, but finds much sense "in dem Gedanken an eine naturhistorische Classificirung der Sprachen" (1833-1852, p. 112) and proposes to distinguish among (1) languages with monosyllabic roots which are not capable of forming compounds and consequently are "ohne Organismus, ohne Grammatik" (such as Chinese);<sup>12</sup> (2) languages with

monosyllabic roots capable of compounding which "acquire their organism, their grammar almost only in this way" ("fast einzig auf diesem Wege ihren Organismus, ihre Grammatik gewinnen") (such as Indo-European and the majority of other languages); and (3) languages with disyllabic roots and three consonants in the root which are the only carriers of lexical meaning (Semitic). The Indo-European languages are deemed to be superior to the Semitic languages, not because of their inflectional pattern but because of the richness of their grammatical complements, of their ability in choosing and using them, and finally because of the "beautiful joining of these complements into a harmonic whole with the appearance of an organic body" ("in der schönen Verknüpfung dieser Anfügungen zu einem harmonischen, das Ansehen eines organischen Körpers tragenden Ganzen." [ibid., p. 113]).

In the technical part of the *Vergleichende Grammatik*, which is the bulk of the work, the style is less lofty and the discussion is highly pragmatic. The method consists of comparing functionally or formally similar segments of different Indo-European languages, concentrating on the formal similarities, and trying to explain away the differences as due to plausible innovations. The first step is to segment the lexical items that are the object of the analysis into roots and inflections. This *Zergliederung* process, which Bopp considers one of his main achievements, is done both on synchronic criteria and on diachronic criteria, though priority is given to the latter. If in a given language synchronic considerations lead to a specific segmentation, this is in the first instance mentioned and accepted; later it can be rejected if at an earlier period of the same language or in related and more archaic forms of another language the *Zergliederung* is different. In ancient Greek, where *-s* is the normal ending of the nominative singular, the genitive corresponding to the nominative *dusmenēs* 'hostile' is *dusmene-os*. If so, we are told, it is natural to assume that in *dusmenēs* the final *-s* is an ending, since it does not recur in other parts of the paradigm (cf., e.g., nom. *phulak-s*, gen. *phulak-os*, where *-s* marks the nominative and *-os* the genitive). On the other hand, two points speak for *-s* as part of the stem: (1) the comparison with the cognate Sanskrit nom. *durmanās*, gen. *durmanas-as*, and (2) the evidence that in Greek *-s-* between vowels drops so that the gen. *dusmene-os* could derive from *dusmenes-os*. A further observation supports the conclusion; *-menēs* is related to the noun *menos* 'anger,' which is a neuter and yet has a final *-s* in the nominative, though *-s* is not an ending used for the neuter nominative (1833-1852, p. 171).<sup>13</sup>

The *Zergliederung* isolates a number of elements (roots, affixes, etc.) that are then compared with each other (though the comparison is partly implicit in the *Zergliederung*) for the purpose of reconstruction. This leads to the

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attribution to the parent language of specific roots and inflections. The latter are analyzed further in the hope of a more complete interpretation. In this way Indo-European is attributed an *-s* ending of the nominative singular. This is then compared with the demonstrative pronoun Sanskrit *sa* 'he,' 'this.' The reasoning is formal rather than semantic: the form *sa* of the pronoun is used for the masculine and feminine but not for the neuter (Skt. *tat*); similarly, the *-s* ending occurs in the masculine and feminine but not in the neuter (ibid., p. 157).<sup>14</sup>

General statements about organic and organism are not frequent in this technical part, but the two adjectives *organisch* and *inorganisch* have become part of the technical jargon: a sound or an ending or a rule is organic when it belongs to the primitive phase of a language, inorganic when it has been introduced into the language at a later stage.<sup>15</sup>

How should we judge this technical work? There is much that is right in Kiparsky's (1974) view that the aim is, first, reconstruction of the protoforms and, secondly, interpretation of the reconstructed morphology in terms of logical relations. In this sense, as Verburg (1950) pointed out, Bopp is a rationalist, albeit of a special type. Yet after 1816 the emphasis is not so much on finding in language the logical forms defined by universal grammar as on recognizing the consistency with which grammatical distinctions are indicated and on identifying the original value of the grammatical affixes.<sup>16</sup> Also, it is worth stressing that the discussion is limited to a specific language family and that there is no desire to extend it beyond that point, no pretense of universality.

I ask again: But why is language treated as an organism? Do the programmatic declarations quoted above have any purpose in this type of work? If Bopp is a rationalist, why does he adopt an organicistic conception of language? Should we conclude that the organicistic terminology is verbiage due to the prevailing trends? Or that we misunderstand the words?

In an interesting, irritating, and at times obscure book, Judith Schlanger (1971, pp. 125–126) has argued along both these lines:

The term organism may also be a conceptual banality, which is simply equivalent to the notion of system. This is how Bopp understands it when he declares that his comparative grammar aims at giving a description of the organism of the various languages that it considers, or that to teach a language means to describe its functioning and its organism. However, Bopp occasionally does not resist the verbal temptation to introduce a contrast between "understanding the nature and alteration of the simple organism of language" and "attempting to express it through mechanical links", but it is only a point of detail which remains on the surface of his undertaking. Similarly, to

study the physical or mechanical laws of philology, to treat the physics or physiology of languages—all these formulas aim at expressing the wish for a scientific attitude rather than at indicating a direct analogical link. In Bopp the use of some figurative and facile expressions is simply the result of a slight, unavoidable contamination with the spirit of the times.<sup>17</sup>

No doubt Bopp can use "organism" for system, or, more precisely, for morphological system. In this sense the word is almost synonymous with *Grammatik*. Indeed, in the *Vergleichende Grammatik* (pp. 112–113), quoted above, Bopp glosses the word deliberately in that manner. But why is the gloss provided in one instance and not in the others? Does Bopp's clarity break down at this stage? And is it conceivable that the mature Bopp, who makes fun of at least part of Schlegel's organicistic terminology and complains about its meaninglessness, falls into the same trap?<sup>18</sup>

Let us look again at the aims and method of Bopp's work. A clear statement of intent occurs in the 1836 review of Graff's *Althochdeutscher Sprachschatz*:

[The linguist,] putting together the forms that reciprocally explain each other, finds the most genuine, the most original of them all, and in this way often discovers the reasons for naming an object in a certain manner; thus he clarifies on the one hand the philosophy inherent in language, the aptness of its original assumptions, and on the other hand the regularity and naturalness of its physical composition as well as the simplest constituent elements of its system.<sup>19</sup>

Yet Bopp also explains that in order to reach this result the linguist "establishes for each word as far as possible the regularity of its formation, and at the same time places side by side with it the course of its development (life) and describes its appearance in the earlier periods, that is, in the older related languages."<sup>20</sup>

The point made here clearly enough and confirmed by the technical work is that the history of the forms is important not necessarily for its own sake but at least as a means to an end, that is, to reconstruction. In the *Vergleichende Grammatik* the process of reconstruction involves close discussion of the aberrant (i.e., new) forms and of the innovations introduced by each language in the original system. Reconstruction would not be necessary if change had not taken place and languages had not diversified. The point is trivial, but it does need restating. The concrete work is constantly concerned with change and the reasons for, or plausibility of, specific instances of change.<sup>21</sup> Bopp frequently refers to *Wohllautgesetze*, which explain change, and occasionally

refers to the *Macht der Analogie*, which accounts for new forms.<sup>22</sup> What is old must be distinguished from what is new. Admittedly, it is what is old, not what is new, that is interesting, but in order to distinguish the two correctly we must understand the why and how of the innovations. Yet, although an understanding of change is so basic for his work and he spends so much time discussing individual instances of linguistic change, Bopp never asks the more general question: why do languages change? In our general picture of Bopp's thought there is a difficulty or inconsistency. We are told that in the early period, when language is in full possession of its vital power (*Lebenskraft*), it also fully understands the meaning and purpose of each word element; in time everything becomes more uniform, the meaning of sounds is less felt and valued so that the sounds may be supplanted and changed (1836, pp. 114–115 [1827]). But what justifies the shift from a period of full understanding to a period of imperfect understanding? Why does a clearheaded scholar, such as Bopp undoubtedly was, not ask the question or even hint at it? Was he too much of a technician to be concerned with general problems? Yet he does ask other general questions, and he was far too close to the beginning of his century and the end of the previous century to be capable of ignoring all general discussion.

In my view, if there is indeed a historiographical problem, it can be solved easily. Bopp did not ask the general question about language change simply because he had implicitly answered it from the start. If language is an organism, not only in the sense that it is a system but also in the biological sense of the term, it must have an inbuilt drive toward change. It develops and decays because this is what organisms do: decay inevitably follows the period of maximum strength. As Cuvier (1800, p. 10) put it, all organisms "croissent par une force intérieure, périssent enfin par ce principe intérieur et par l'effet même de leur vie." There is more: the machine (to take the obvious term of contrast) either functions or breaks, but it does not adapt to different circumstances or replace its broken parts, let alone alter them. Yet it is characteristic of languages to change, to adapt. It may happen that they keep the old rules but that these apply to different linguistic material, or alternatively that they abandon some of the old rules without coming to a complete breakdown of the system. My claim is that Bopp was fully aware of this and, if asked why this was so, would have replied that the phenomenon needed no explanation or at least no explanation at a linguistic level. It was one of the characteristics that language shared with all other organisms.

If I am right, the difficulty or inconsistency mentioned before is removed, or at least pushed one step further from the theory of language to that

of organisms, but what evidence do we have for this suggestion? Did Bopp really think in these terms?

I start with some general observations made by Bopp in 1829. They show once again that Bopp was concerned with language change but also that in his mind change or development and organic nature were connected. In a draft reply to Humboldt, who had objected to parts of his theory of the root, Bopp tried to give an account of his method and aims:

So what I say in my grammar about the reasons for, or laws of, linguistic phenomena must always be taken to mean that that is my view and that I have arrived at this conviction through my observation of the development process of language, and that in any instance I may be wrong.<sup>23</sup>

The emphasis is on observation of general processes of change and generalization from there. Bopp continues:

It seems to me necessary so to organize the treatment of a language that it emerges clearly that one (the author) is not (merely) concerned with understanding (reading) the writers of a nation, but also wishes to describe the organism (the development process) of a language for its own sake.<sup>24</sup>

"Development process" (*Entwickelungs[gang]*) here is meant to be added to, or substituted for, "organism" (*Organismus*).

Consider now some examples of technical discussion. In the *Vergleichende Grammatik* (1833–1849, pp. 622ff.) Bopp discussed a presumed oddity of *Altslawisch*. The data were not considered in the second edition of the book because they were faulty, but this need not concern us here.<sup>25</sup> In *Altslawisch*, we are told, the dual of the verb distinguishes a masculine and a feminine in the first and third persons: "We two (males) are" is different from "we two (females) are." Bopp stresses that this was obtained "auf unorganischem Wege, im Abweichung von dem Urtypus unseres Sprachstamms," (in an unorganic way, in contrast with the original type of our language family), which did not distinguish gender in the finite verb. In Bopp's formulation, the endings in question are *-va* (masc.) and *-vje* (fem.) for the first person, and *-ta* (masc.) and *-tje* (fem.) for the third person. Bopp points to the existence of a pronoun *va* 'we two' and postulates the formation of a feminine *vje* 'we two (females)' due to the *Macht der Analogie* with the dual of feminine nouns. The verb, according to Bopp, followed suit, introducing the ending *-vje* to match the inherited *-va*, which was unmarked for gender. In the third person

the original ending *-ta* was formally identical to the pronoun *ta* 'these two.' On the model of the dual of the nouns, a feminine *tje* 'these two (fem.)' was created and the verbal ending *-ta* was replaced by two endings, *-ta* and *-tje*, marked for gender. The conclusion is forcefully stated:

Yet these feminine verbal endings are remarkable in that they are based on the feeling for the grammatical identity of verb and noun<sup>26</sup> and show that the *Sprachgeist* was still productively permeated by the close connection which had existed from ancient times between the simple pronouns and those linked with the verbal stems.<sup>27</sup>

In other words, language has moved away from the *Urtypus*, but the old *modus operandi* of the original organism is still recognizable, though the forms in question are new.

Elsewhere Bopp argues at length about the origin of the Germanic weak conjugation and of the typical dental of the preterite (Gothic infinitive *sokjan*, Ger. *suchen*; Goth. preterite *sokida*, Ger. *suchte*) (1833–1852, pp. 866ff.). This he identifies with the dental of the verb *thun* 'do' 'make'<sup>28</sup> and finds support for his view in the observation that related classes of Sanskrit verbs (denominatives, causatives, etc.) form their perfect by joining to a verbal noun the perfect of either *kar-* 'do' 'make' or *asibhu-* 'be.' In the preface to the *Vierte Abtheilung* of the *Vergleichende Grammatik* (1833–1852, 4th Abth.: vii) it is pointed out that "here too, as in many other things, the apparently peculiar direction taken by the Germanic languages was, as it were, foreshadowed by the ancient sister language of Asia."<sup>29</sup> The general principle is exactly the same as that formulated for the Slavic forms.

I now piece together the essential elements of another lengthy discussion. Bopp, as we have seen, argued against Friedrich Schlegel that vocalic alternation in verbal roots was determined by mechanical rules. "Heavy" endings call for "light" roots and "light" endings call for "heavy" roots; hence, Skt. *e-mi* 'I go' (with a "heavy" root *e-* < *ai-* and a light ending *-mi*) vs. Skt. *i-mas* 'we go' (with a "light" root *-i-* and a "heavy" ending *-mas*).<sup>30</sup> Yet Bopp is confronted with the problem, which he raises himself, that this distribution of "heavy" and "light" works for the verbs but not for the nouns. He answers the objection in different ways. Once he points out that since the rule is not "original" but arises in the course of the development of the language, there is no reason why it should apply equally to all forms of the language (1836, p. 130). Once he stresses the great degree of cohesion of verbal forms in contrast with nominal forms and thus explains the regularity of behavior of verbal roots. The wording is interesting in itself: "The persons, numbers and tenses of a verb form a sort of corporate body not only in the paradigms of the grammars but also in reality; they stand to each other in a close family relationship,

which in some way generates a natural feeling of ordering and rank, through which they support each other and, directed by an innate instinct, incorporate the lengthened or shortened root vowel in accordance with the weight of the endings."<sup>31</sup> If we take the two statements together, we must conclude that irregularity is understandable in the application of rules that did not belong to the original organism, and at the same time conclude that the spreading of innovations is determined by the degree of cohesion of the grammatical forms involved. The first point, which leaves one perplexed, makes better sense if taken together with the second and its quasi-structuralistic flavor.

Finally, some light on the way Bopp conceived of language as an organism with an inbuilt capacity for self-destruction and perhaps restructuring comes from his work on non-Indo-European languages. In 1840 he tried to demonstrate that the Malayo-Polynesian languages were derived from Sanskrit. The attempt was unsuccessful in the eyes of both contemporaries and followers, but this does not concern us here. Bopp admitted that he could offer no grammatical proof of kinship, but he argued that the lexical correspondences were too many and too systematic to be due to chance. Linguists, he surmised, found it difficult to conceive of a relationship between Malayo-Polynesian and Sanskrit because they expected the same type of relationship they found between the European languages and either Sanskrit or the parent language. In fact, the European languages "have not experienced any total and radical change, any breakup of their original formation, have not built a new linguistic body from the ruins of a decaying one, but have only undergone individual losses and amputations that do no real damage to the totality of the organism and do not give it an entirely new and strange appearance."<sup>32</sup> The Malayo-Polynesian languages, on the other hand, "have everywhere departed from the grammatical path their mother Sanskrit trod; they have cast off the old garment and put on a new one, or appear, in the South Sea Islands, in full nakedness."<sup>33</sup>

The conclusion is interesting—it is possible for two languages to be related, though one is built on the grammatical ruins of the other. So far the development of a language seems to have been equated with the development of an individual. Here we move somewhat uneasily between the individual and the species. Apparently a language can change its grammatical "type" while remaining in some sense the "same" language. One is reminded of Gabelentz's later theories about a spiral-like development of language (cf. Morpurgo Davies 1975, pp. 630, n.44; 677f., n.124).

How far have we progressed? I suggested earlier that for Bopp the organic metaphors were more than a terminological concession to Romantic fashion. Have I proved my point? It should be clear by now that though a

study of language change per se was not the main aim of Bopp's work, it was an indispensable part of it. But if so, some basic questions had to be answered, as I argued earlier. Why do languages change? Why do they change in the way they do? Bopp maintained that if both Germanic and Sanskrit exploited forms of the verbs meaning "to make" in the formation of their perfect, this was not due to change; it was an inherited tendency. Yet the two verbs "to make" were not etymologically related. Does this mean that for Bopp an inherited rule could be preserved *in vacuo*, independently of the linguistic material on which it operated? There is no reason to make of Bopp a deep structure man. The Romantic conception of language as an organism provided a first answer to all these questions and at the same time dispensed the practicing comparativist from any further theoretical effort. Change is built into all organisms: they all grow, decay, and eventually die. All species have a capacity for self-reproduction; different individuals belonging to the same species obey the same instincts, behave in a similar manner, and have similar organs. Why is this so? For the biological organism, Cuvier (from whom I paraphrased most of the statements just made) spoke of a *principe intérieur* that could not be better defined (1800, p. 10). We cannot expect things to be clearer for the linguistic organism. If so, the "technician" is free to leave the problem on one side and get on with his work.

This is all the more true because the biological conception of language also provided a justification for the study of language as such, independently from study of the literary texts. All through Bopp's work this point returns as a leitmotif. In 1815 he declares his intention to change the *Sprachstudium* into "einem philosophischen und historischen Studium," without limiting himself to understand what is written in a language (Lefmann 1891-1897, II, *Anhang* 33\*). In a curriculum he explains that having started from a love for oriental literature he found that languages *an und für sich* were no less valuable and important (*ibid.*, 116\*). In the 1829 passage quoted above (p. 89) he speaks of his wish to describe the organism of a language (its development) for its own sake. In 1833 he says that his purpose is to treat languages as "Gegenstand und nicht als Mittel der Erkenntniss" in order to offer a *Physik* or *Physiologie* of the languages in question rather than an introduction to their practical use (1833-1852, 1st. Abth.: pp. xiii-xiv).<sup>34</sup> The list could continue, but consider now the implications of the last sentence quoted. If language can be the object of physical or physiological analysis, linguistics can be an autonomous discipline, with a status parallel to that of the other sciences. The basis on which Bopp can argue for this conclusion—or alternatively the price he must pay for it—is the identification of language and biological organism.

Yet while this conception helped with some problems, it was also responsible for other difficulties—concealed to Bopp and his contemporaries but more apparent to their successors. A biological organism is an independent unit. The whole of Bopp's work treats language as wholly independent from the speakers. Their existence is not denied—it hardly could be—but they are entirely ignored. *Sprache*, *Sprachorganismus*, and *Sprachgeist* all refer to an entity that has a life of its own and obeys its own laws. Other Romantic thinkers equated language with organism, but at the same time tried to find in it an expression of human creativity and looked at it as the perennially developing expression of national identity. This occasionally led them to a paradoxical position similar to that of the literary critic who would enthuse about the organic and self-determined nature of the work of art and then rave about the total freedom enjoyed by the artist in his creative moments.<sup>35</sup> Bopp was too consistent and temperamentally too anti-Romantic to fall into the same trap. Grimm's attempts to equate language development and cultural development found in Bopp a cool listener. At the same time, however, Bopp's analyses of individual instances of change impress the reader as generally impoverished. He ignores the speakers and all problems of language transmission, language diffusion, and so on, and thus deprives himself of a powerful means of explanation.<sup>36</sup>

Moreover, Bopp's concepts of organism, growth, and decay are not consistently applied throughout. In the technical part of his work, we hear a great deal about decay but almost nothing about growth. The assumption is that the separation of the Indo-European languages occurred after the beginning of the linguistic decay of Indo-European; indeed, it was part of it. In Bopp's framework at least, decay seems to lead to loss rather than development, but if this is so, how can new rules and categories be created in a language that is going through a process of decay? Old Slavic, according to Bopp, introduced in the verb a gender distinction that was not present in the *Urtypus*. How is this possible? Organisms have a capacity for self-reproduction, but the new individual is by necessity similar to the old one. If so, how can the Malayo-Polynesian languages derive from Sanskrit but belong to a different type?<sup>37</sup> We may be dealing with an evolutionary theory *in fieri*, but in this case we would expect from Bopp an account of organism that is different from the traditional one or the formulation of an evolutionary principle comparable to Lamarck's inheritance of acquired characters or Darwin's natural selection.

I now turn to a final question and some general conclusions.

How did Bopp come to his concept of organism? Does his reference to *vergleichende Sprach-Anatomie* (e.g., in 1836, p. 83 [1827]) imply a cultural

dependence on Cuvier or other scientists? I have no definite answer. Bopp lived in Paris for four years, from 1812 to 1816. He must have heard of the most famous scientists of the period, but we do not know whether he thought about their work or was directly influenced by their views. The important step was the identification of language and organism, yet this step had been taken before Bopp's time, and in Friedrich Schlegel's 1808 book, which he read and studied, he met both the organic conception of language and the reference to *vergleichende Anatomie*.<sup>38</sup> We may look at the way Bopp conceives of an organism as such (not necessarily a linguistic organism). Most of Bopp's statements match those of Georges Cuvier, for example, but similar statements occur in most texts of Romantic and pre-Romantic literature and philosophy. On an abstract level, Cuvier himself did not introduce a new concept of organism. In the first of his *Leçons d'anatomie comparée* (1800, p. 6), Cuvier refers explicitly to Kant, and the whole discussion of the differences between organisms and mechanisms, *corps vivants* and *corps bruts*, is strongly reminiscent of the second part of the *Critique of Judgement*.<sup>39</sup> The point is that Bopp's concept of organism is too vague to be attributed to a particular author or school or even a particular science. Quite simply, it is the concept of organism that was in the air at the time and that anyone could have absorbed without taking the trouble to refer back to the philosophical or biological textbooks where it was explicitly discussed.<sup>40</sup>

In spite of, or perhaps because of, the vagueness of one of his basic concepts, Bopp is a good example of a phenomenon that keeps recurring in the history of our discipline (and no doubt in that of other disciplines too). The organic views that he accepted were ill-defined but played an important part in his work. I have argued that the identification of language and organism provided him with a justification for the autonomous study of language and an explanation of language change, but it also allowed him to continue his technical work unencumbered by the theoretical worries of his predecessors. Should we then conclude that the theory acted as a sort of conscience-saving device, that it made the concrete work reputable and allowed it to continue but did not interfere with it? To a certain extent this is true, and it serves to explain some of the later developments. Most nineteenth-century linguists saw Bopp as the founding father, not because they agreed with his theories (at some stage these were rejected) or accepted all his results, but because they shared with him a number of common interests and above all because they recognized a fundamental similarity in the techniques which he had used and in those which they were using. Reading Bopp now, almost a century and a half after publication of the *Vergleichende Grammatik*, I have much the same feeling. However, this is not all. Bopp's theory did at times influence his technical

work. Occasionally we see that when two interpretations of a phenomenon or a set of forms are possible Bopp chooses the one that better suits his view of the linguistic organism and of the way it works. The new feminine dual forms of the Slavic verb could have been explained analogically (elsewhere Bopp adapts this type of explanation), and in at least one instance Bopp could have thought of analogy with the noun rather than with the pronoun, yet he hints at composition of verb and pronoun. Clearly he is eager to state that his criterion for the formation of the inflected verbs (forming compounds with pronouns) applies to both the early and late stages of the linguistic organism. Elsewhere techniques and theory conflict. Bopp openly admits that comparison leads him to postulate two verbal endings, *-mi* and *-m*, for the first person singular of the parent language. Yet he finds it difficult to assume that in *der Jugend-Periode unseres Sprachstamms* there was a double series of endings for one function.<sup>41</sup> This, we are told, could not have happened at a time "when the language organism was still in the full flower of health in all its parts" ("wo der Sprach-Organismus noch in allen seinen Theilen in voller Gesundheit blühte"). Hence the conclusion that *-mi* was the original ending and that at a later stage *-m* derived from it through the loss of final *-i* (1833–1852, p. 633).<sup>42</sup> Why does Bopp in this instance explicitly reject the results of the comparative method? We are reminded of a passage in the *Critique of Judgment* (II, sec. 66) in which Kant defines an "organized product of nature" as "one in which every part is reciprocally purpose, and means. In it nothing is vain, without purpose or to be ascribed to a blind mechanism of nature." Kant later continues:

It is an acknowledged fact that the dissecters [*Zergliederer*] of plants and animals, in order to investigate their structure and to find out the reasons, why and for what end such parts, such a disposition and combination of parts, and just such an internal form have been given them, assume as indisputably necessary the maxim that nothing in such a creature is *vain*.<sup>43</sup>

In other words, in dissecting an organism (*Zergliederung* is the word Bopp uses for language segmentation) we must assume that we will not find useless parts.<sup>44</sup> Similarly, Bopp finds it impossible to attribute to a linguistic organism two entirely equivalent endings and is obliged to conclude that one of them arose during the process of decay as a secondary innovation.<sup>45</sup> There is little doubt that in both these instances Bopp's "technical" conclusions are partly determined by his organic view of language. On one occasion he adopts a solution that agrees with his concept of language as a developing organism capable of preserving and transmitting specific rules or *modi operandi*, on another occasion he modifies some of the conclusions reached through com-

parison in order to be consistent with his view of the linguistic organism as formed by parts, all of which are functionally necessary.

In summing up, we must summarize, but also look forward at the later developments in the subject. In Bopp's work the organic conception of language, however ill-defined, played an important role. It justified the concentration on language *an und für sich* and provided a theoretical framework (or the simulacrum of one) within which to operate. More concretely, it determined some of the "technical" conclusions. Either the theory or the conclusions (or both) were bound to be influential, and the influence was pervasive and long-lasting. Around the middle of the nineteenth century, Schleicher exploited the organic model far more than Bopp had done (and with much greater awareness), but in so doing he showed the following generations what its limitations were. The neogrammarians reacted against Schleicher and the model, but could not escape the influence of either. The history of nineteenth-century linguistic thought could be rewritten *sub specie organismi*, and I suspect it is the organic conception of Bopp rather than that of Grimm or even Humboldt which determined the later developments.<sup>46</sup>

## Notes

1. Not all biological metaphors arose in the nineteenth century. Some of them have a much longer and more illustrious history (see Chapter 1, by W. Keith Percival).

2. In 1923, A. Meillet wrote, "L'expérience montre qu'un fait nouveau bien analysé fait plus pour le développement de la science que dix volumes de principes, même bons" (Meillet 1923-1924, p. 83; cf. also de Mauro 1965, p. 80). ("Experience shows that a new fact, if well analyzed, does more for the development of science than ten volumes of principles, even if good.") It is doubtful that this statement would have been accepted as such in the early nineteenth century, but as early as 1835 it was possible for Bopp (1836), then professor of Sanskrit and *allgemeine Sprachkunde* in the newly founded University of Berlin, to write a lengthy review of a purely technical work like Graff's *Althochdeutscher Sprachschatz* and to hail it as a major contribution to linguistics.

3. See Cassirer 1945; Lepschy 1962-1981 (particularly important); Nüsse 1962, pp. 44ff.; Rensch 1967; Brown 1967, pp. 40ff.; Schlanger 1971; Picardi 1973 and 1977; Timpanaro 1972 (1977) and 1973; and Koerner 1975.

4. For references, see Morpurgo Davies 1975, pp. 610, ff., 623-624.

5. For the literature, see Gipper and Schmitter 1975, pp. 510ff.; 1979, pp. 49-54; and Morpurgo Davies 1975. Add Timpanaro 1973; Antinucci 1975; Paustian 1977; Rousseau 1980; and Koerner 1984. Particularly important are the articles by Verburg 1950, Pätsch 1960, Neumann 1967, and Timpanaro 1973. Lefmann (1891-1897) is still indispensable as a collection of data. Two interesting articles by R. Sternemann (1986 a, b) appeared too late to be considered in this paper.

6. This sentence may be the most quoted statement in the linguistic work of the early nineteenth century. Bopp himself quoted it in translation (Bopp, 1820, p. 15). For Schlegel's influence on Bopp, it is important to see the letters that Bopp wrote from Paris; cf. esp. Lefmann 1891-1897, II, *Anhang* 9\*f.

7. See Bopp's letter of March 5, 1820, to Humboldt (Lefmann 1891-1897, Nachtrag 7). See also, e.g., Bopp 1820, pp. 10ff.; 1972, p. 117 (1831, p. 15); 1833-1852, pp. 105ff. See below, p. 90.

8. This distinction is not generally made, but it should be. In what follows, I shall in most cases ignore the 1816 book. No reference to organic, organism, etc., occurs in Bopp's 1820 work, the English article/monograph based on the *Conjugationssystem* (1816). Probably this is due not to a change in Bopp's views between 1816 and 1820 but to the fact that the 1820 work is written in English. As late as the mid-nineteenth century, Ellen Millington, the translator of Friedrich Schlegel's *Aesthetic and Miscellaneous Works* (London, 1849), avoided the words "organic" and "organism" in a linguistic context and preferred to translate the German *Organismus* with "organization" or "structure" or different paraphrases (cf. Schlegel 1977).

9. "... und weil die gleichsam in der Lebensfülle der Sprache wie organisch entsprossenen Aeste und Verzweigungen nach und nach absterben, und zu einer toten Masse geworden, abgelöst werden können, ohne dass dieser Verlust von dem noch lebenden Körper gefühlt wird" (Bopp 1972, p. 3) [1824, p. 119].

10. "Die Sprachen sind nämlich als organische Naturkörper anzusehen, die nach bestimmten Gesetzen sich bilden, ein inneres Lebensprinzip in sich tragend sich entwickeln, und nach und nach absterben, indem sie, sich selber nicht mehr begreifend, die ursprünglich bedeutsamen, aber nach und nach zu einer mehr äusserlichen Masse geworden Glieder oder Formen ablegen, oder verstümmeln, oder missbrauchen, d.h. zu Zwecken verwenden, wozu sie ihrem Ursprunge nach nicht geeignet waren." (Bopp 1836, p. 1). This passage, like the Schlegel sentence quoted above, is constantly quoted; cf., e.g., Koerner 1975, p. 735.

11. "... eine vergleichende, alles verwandte zusammenfassende Beschreibung des Organismus der auf dem Titel genannten Sprachen, eine Erforschung ihrer physischen und mechanischen Gesetze und des Ursprungs der die grammatischen Verhältnisse bezeichnenden Formen" (Bopp 1833-1852, 1st. Abth., iii).

12. The statement may seem odd in view of Bopp's refusal to distinguish between organic and nonorganic languages. But *Organismus* is here glossed with *Grammatik* and comes close in meaning to our "morphology" or "morphological system." There is no judgment of value similar to that of Schlegel, and there is no reference to an organic development of the roots. (For the background of Bopp's statement, one must probably consider Humboldt's *Lettre à M. Abel Rémusat sur la nature des formes grammaticales en général et sur le génie de la langue chinoise en particulier* (1827); for the identification of grammar and organism, cf. Humboldt 1903-1936, 3: 294ff. [1812]).

13. Contrary to the received opinion, there is no confusion even at this stage between synchrony and diachrony (to use more modern terminology). A striking example of a well-made distinction occurs in Bopp's review of Graff's *Althochdeutscher Sprachschutz* (Bopp 1836, pp. 145-146 [1835]). Bopp knows that the Germanic umlaut arose from an "automatic" alteration of the root vowel which is assimilated to the vowel of the following syllable, but even so he stresses that in modern German the resulting vocalic alternation in certain roots must be attributed a *dynamische Bedeutung*, "because now we do not know that at an earlier stage the *-l* of *Äpfel* [the umlauting plural contrasted with the sing. *Apfel*] was followed by an *-i-* which had an assimilating influence on the preceding *a-*."

14. The point is important. Kiparsky's view (1974, p. 343) that Bopp is a representative of that school of linguistic thought which concentrates on the semantic basis of linguistic form

rather than on the study of the "intricate but perhaps slightly less elusive intrinsic patterning of linguistic forms" seems to be open to challenge. As I point out later, there is a basic continuity between Bopp and the scholars of the second half of the century. This is determined largely by the techniques used in the actual work of reconstruction, and the emphasis is definitely on form rather than on semantics for both Bopp and, for example, the neogrammarians. In a sense Bopp's novelty is here, though this does not prevent him from reaching individual conclusions more on the basis of a faulty semantics or a faulty logic than on formal grounds. I suspect that the general view we have of Bopp has been too much influenced by the beginning of the *Conjugationssystem*, which he wrote when he was twenty-four or twenty-five. For a different approach, see Antinucci 1975.

15. See also Delbrück 1880, p. 18. Pösch (1960, p. 224) has criticized Delbrück's identification of *organisch* and *ursprünglich* in Bopp but there are many passages in the *Vergleichende Grammatik* where *organisch* is interchangeable with "that which belongs to the parent language," or "*ursprünglich*." The expression need not have originated with Bopp; see, e.g., Grimm 1822, p. 591: "Ich habe . . . die alth. lautverschiebung als etwas *unorganisches* dargestellt, und freilich ist sie sichtbare abweichung von einem früheren, spurweise noch vorhandenen organismus." ("I have represented the Old High German sound alternation as something *inorganic*, and clearly it is an obvious change from an earlier organism, traces of which still exist"). In a copy of Grimm's *Grammatik* kept in the library of the Taylor Institution in Oxford (10 e.1), an unknown hand has written on the frontispiece: "'Organisch' heisst in meiner Grammatik was der natürlichen Regel der Sprache und ihrer inneren Consequenz gemäss ist, im Gegensatz zu den störenden, unharmonischen Abweichungen.—Jacob Grimm an Halbertsma, 1833." ("In my Grammar 'organic' refers to what is in agreement with the natural rule of the language and its inner functionality, in contrast with the disharmonic, destructive changes.") I have not been able to trace a published reference for this quotation. For the earlier period we must refer to a different but important distinction made by Humboldt in 1812: "Man kann es als einen festen Grundsatz annehmen, dass Alles in einer Sprache auf Analogie beruht, und ihr Bau, bis in seine feinsten Theile hinein, ein organischer Bau ist. Nur wo die Sprachbildung bei einer Nation Störungen erleidet, wo ein Volk Sprachelemente von einem andern entlehnt, oder gezwungen wird, sich einer fremden Sprache ganz oder zum Theil zu bedienen, finden Ausnahmen von dieser Regel statt" (Humboldt 1903–1936, 3: 295). ("One may take it as a firm fact that in a language everything depends on analogy, and that the language structure is an organic structure even in its finer parts. We find exceptions to this rule only where the linguistic formation of a nation undergoes various disturbances, where a people borrows linguistic elements from another, or is compelled to make complete or partial use of a foreign language"). We know that Grimm read the article and approved of it (Tonnelat 1912, pp. 326ff.).

16. Bopp points out more than once that language does not follow strictly logical rules in the choice of its means of expression. He derives the augment, which he takes to be the necessary mark of the past in the parent language, from the negative particle *a-* (the Greek *alpha privativum*) and concedes to his critics that negation of present does not mean past, just as "Negation des Einen ist noch nicht Vielheit (es konnte ja auch Zweiheit, Dreiheit oder gar nichts sein)." ("Negation of the one is not yet plurality (it could also be duality, triality or even nothing)"). Yet for Bopp the analysis can still be correct because language never expresses something in full but selects for emphasis the most prominent feature or that feature which is taken to be so. An animal that has teeth/tusks is not necessarily an elephant, but in Sanskrit *dantin* 'the toothed/tusked one' means "elephant." In its turn, the word for "tooth" may etymologically mean "the eater," but one could object that not all eaters are teeth; "somit dreht sich die Sprache in einem Kreise von Unvollständigkeiten herum, bezeichnet die Gegenstände unvollständig durch irgend eine

Eigenschaft, die selber unvollständig angedeutet ist" (Bopp, 1833–1852:783–784; cf. also 1820, pp. 26ff.). ("Thus the language moves in a vicious circle of incompleteness; it indicates the objects incompletely, selecting for this purpose one of their qualities, which in its turn is incompletely expressed")

17. "Le terme d'organisme peut, lui aussi, n'être qu'une banalité conceptuelle, qui équivaut simplement à la notion de système. C'est en ce sens que l'entend Bopp, lorsqu'il déclare que sa grammaire comparée se propose de donner une description de l'organisme des différentes langues qu'elle considère, ou qu'enseigner un idiome consiste à en décrire le jeu et l'organisme. Toutefois Bopp ne résiste pas, accidentellement, à la tentation verbale d'opposer "comprendre l'identité et la perturbation de l'organisme simple de la langue" à "en tenter de l'exposer par des liaisons mécaniques": mais chez lui ce n'est qu'un détail à la superficie de son propos. De même, étudier les lois physiques ou mécaniques de la philologie, donner la physique ou physiologie des langues, ces formules cherchent à exprimer l'intention d'une attitude scientifique plutôt qu'elles ne convoient un plein [*sic*, read 'lien'?] analogique direct. Chez Bopp, le recours à des façons de parler figurées et faciles n'est que la contamination faible et inévitable de l'air du temps." (Schlanger 1971, pp. 125–126)

18. For Bopp's ironical reactions to Schlegel cf., e.g., Bopp 1832, p. 15 "Man mag vorziehen jene Laute [viz., those of suffixes, etc.] gleichsam als die Füße anzusehen, die einer Wurzel beigegeben oder angewachsen sind, damit sie sich in der Declination darauf bewegen könne; man mag sie auch als geistige Emanationen der Wurzeln ansehen, die, man braucht nicht zu bestimmen wie, aus dem Schoosse der Wurzeln hervorgetreten, und nur einen Schein von Individualität haben, an sich aber Eins mit der Wurzel oder nur ihre organisch entfaltete Blüthe oder Frucht seien. Mir scheint aber die einfachste und durch die Genesis anderer Sprachstämme unterstützte Erklärung den Vorzug zu verdienen." ("One may prefer to see those sounds, so to speak, as feet, which have grown to a root or have somehow been added to it, so that it can stir itself into a declension; one may also see them as spiritual emanations of the root, which emerge from its lap—no need to say how—and have only an appearance of individuality, but in themselves are at one with root or are merely its organically developed flowers or fruits. It seems to me however that the simplest explanation, which is also supported by the origin of other language families, deserves preference . . .")

19. ". . . durch die Zusammenstellung der sich wechselseitig aufklärenden Formen die echtste, ursprünglichste von allen ermittelt, und hierdurch häufig den Benennungsgrund eines Gegenstandes aufdeckt, und so einerseits die der Sprache inwohnende Philosophie, die Sinnigkeit ihrer Uranschauungen, und andererseits die Regelmässigkeit und Natürlichkeit ihrer physischen Einrichtung, so wie die einfachsten Elemente ihres Ganzen an das Licht zieht" (Bopp, 1836, p. 136).

20. ". . . so weit es möglich ist, einem jeden Worte die Gesetzmässigkeit seiner Bildung nachweist, ihm gleichsam seinen Lebenslauf zur Seite stellt, sein Aussehen in früheren Perioden, d.h. in älteren stammverwandten Sprachen beschreibt" (ibid.; emphasis added).

21. In note 45, below, I discuss Bopp's analysis of the identical endings of first and third persons singular perfect in Sanskrit and other languages. Both in 1820 and 1842 Bopp reached the same conclusion: this identity must be due to an innovation. Yet, unlike in 1820, in 1842 he found it necessary to adduce a reason (however implausible this may seem to us nowadays) to justify the innovation.

22. Koerner 1975, p. 734, is right in stressing that the concept of morphological analogy is present in Bopp. This does not, of course, speak against the novelty of the neogrammarians' views on the subject; see Morpurgo Davies 1978.

23. "So ist das was ich in meiner Gr. von Gründen oder Gesetzen der Spracherscheinungen

sage, immer so zu verstehen, dass dies mein Ansicht sey, dass ich durch meine Beobachtung des Entwicklungsgangs der Sprache zu dieser Ueberzeugung gelangt bin, in der mich jedesmal irren kann . . ." (Lefmann 1891–1897, Nachtrag, p. 69).

24. "Es scheint mir notwendig (. . .) die Behandlung einer Sprache so einzurichten, dass man daraus ersieht, dass es einem (dem Verf.) nicht (blos) darum zu thun ist, die Schriftsteller einer Nation zu verstehen (zu lesen), sondern dass man den Organismus einer Sprache (den Entwicklungsgang) um seiner selbst willen darstellen will" (Lefmann 1891–1897, Nachtrag, p. 69).

25. The data as we now see them (see Vaillant 1950–1977, 3 I: pp. 15, 27–28) are far more complicated than indicated in the *Vergleichende Grammatik*. In the late texts, Church Slavonic has a third person dual masculine ending *-ta* which is contrasted with a feminine-neuter ending *-tĕ*. Both forms replace an older *-te* (which was unmarked for gender) and seem to be modeled on the nominal declension. Other Slavic languages (Slovenian, Kashubian, Sorbian) have developed a distinction between the masculine and the feminine both in the pronoun and in some forms of the dual verb. These are late analogical innovations that are difficult to define and to explain.

26. For Bopp, the Indo-European roots were originally distinguished into nominal-verbal roots, which yielded verbs, nouns, adjectives, etc., and pronominal roots, which yielded pronouns, conjunctions, particles, etc. The distinction between nominal and verbal roots was, according to Bopp, secondary and did not belong to the parent language. The point made here is that if the verb can acquire a feminine, though gender distinctions are normally limited to nouns, this shows that there is no fundamental gap between verbs and nouns. Notice that this classification of the roots was something which Bopp had partly inherited from the rationalistic tradition (cf. Verburg 1950, but see also the strictures of Antinucci 1975). He is now trying to find a formal justification for it, and he is doing it in an organicistic framework.

27. "Merkwürdig aber sind jedenfalls diese weiblichen Verbal-Endungen, weil sie auf dem Gefühle der grammatischen Identität des Verbums und Nomens beruhen, und beweisen, dass der Sprachgeist von dem engen Zusammenhang noch lebendig durchdrungen war, der von jeher zwischen den einfachen Pronomina und den mit Verbalstämmen verbundenen bestanden hat" (Bopp 1833–1852, p. 623). According to Bopp, the personal endings were in origin pronominal forms, and the pronominal roots also accounted for most of the grammatical affixes.

28. This explanation replaced an older suggestion by Bopp (e.g., 1816, pp. 118ff.; 1820, pp. 37–38), according to which the dental is to be compared with the one of the participle suffix (Skt. *-ta-*). Both hypotheses are still discussed seriously today.

29. "Es war also hierin, wie in so vielen anderen Dingen, die scheinbar eigenthümliche Richtung, die die Germanischen Sprachen genommen haben, gleichsam schon durch die alte Asiatische Stammschwester vorgezeichnet." (Bopp 1833–1852, 4th. Abth., p. vii).

30. See Bopp 1833–1852, pp. 694ff., and Verburg 1950. Zwirner and Zwirner (1966, pp. 83–84; see also Koerner 1975, p. 734) suggest that in this theory Bopp may have been influenced by contemporary chemistry. As they say, the point is impossible to prove, and the obvious connections between root ablaut and the presence or absence of certain endings may have been sufficient to suggest the thought to Bopp, who also compared the contrast between, e.g., French *je tiens* and *nous tenons*. On the other hand, it is possible that Bopp felt the influence of Karl Heyse's views about the relative "weight" of vowels, views that in their turn depended on the earlier theories of Wolfgang von Kempelen (see Benware 1974, pp. 27ff.). We know that Bopp thought of the alternation as of a "mechanical" law (see Bréal 1866–1872, I: 1n), and we may ask what determined the use of this adjective. It may be relevant that for the young Bopp, who was still under Schlegel's influence, ablaut or vocalic alternation was the "organic" inflection par excellence. The conclusions he reached later about the alternation in the word of "heavy" root

and "light" ending, or vice versa, meant that he could abandon the "organic" theory of the root and replace it with a nonorganic or, in the jargon of the time, "mechanical" view. In this scenario the influence of chemistry is not necessary. More mysterious is why Bopp, in spite of Humboldt's early hints and the later work by, e.g., Holtzmann, never proposed or accepted the view that vocalic alternation was due to different accentual patterns (cf. Benware 1974, p. 44, and esp. Bréal 1866-1872, 3: xliv-xlvi, with note 1 at p. xlvi).

31. "... die Personen, Zahlen, Tempora eines Verbuns nicht blos in den Paradigmen der Grammatiken, sondern auch in der Wirklichkeit eine Art von Körperschaft ausmachen, in einem engen Familienverhältniss zu einander stehen, was in ihnen gewissermaassen ein natürliches Ordnungs- und Rang-Gefühl erzeugt, wodurch sie sich wechselseitig unterstützen, und, von einem angeborenen Instinkt geleitet, nach Maassgabe des Gewichtes der Endungen den ausgedehnteren oder eingengeren Wurzelvocal sich einverleiben" (1836, p. 36 [1827]).

32. "... keine totale Umwälzung, keine Auflösung ihres Urbaues erfahren, nicht aus den Trümmern eines zerfallenen Sprachkörpers sich einen neuen gebildet, sondern nur einzelne Verluste und Verstümmelungen erlitten haben, die dem Gesamt-Organismus keinen wesentlichen Abbruch thun, ihm keinen völlig neuen und fremdartigen Anstrich geben" (1840, p. 171 [1972, p. 235]).

33. "... sind aus der grammatischen Bahn, worin sich ihre Mutter Sanskrit bewegt hat, überall herausgetreten; sie haben das alte Gewand ausgezogen und sich ein neues angelegt, oder erscheinen, auf den Südsee-Inseln, in völliger Nacktheit" (ibid.).

34. What does *Physik* mean in this context? Grimm's *Wörterbuch* (s.v.) quotes Kant: "Die Wissenschaft der Natur heisst Physik." But is Bopp making a general plea for a comparison with sciences in general, or does he think of the biological sciences in particular? Bréal, who is normally aware of problems of terminology, translates *physique* without further comment (1866-1872, 1: 8); Eastwick (1854, 1: 13) translates *physiology* and omits the previous word. We know that in the same preface "physical laws" refers to grammar rules and especially to phonetic rules. In Bopp 1836, p. 136, quoted above, the *physische Einrichtung* of a language is contrasted with its *inwohnende Philosophie*. I wonder whether in our context *Physik* and *Physiologie* refer to external form and internal organization respectively.

35. For Romantic aesthetic thought and its paradoxes see Abrams 1958, pp. 223-224.

36. We notice the contrast not only with Bredsdorff (1790-1841), who remained virtually unknown, but also with earlier thinkers, e.g., Turgot (I refer to the article "Étymologie" that appeared in 1756 in the *Encyclopédie*). Grimm too, who was much closer to Bopp in the type of work he was doing, strikes us as very different from him in this respect.

37. The question of "type" change is of course controversial. If we assume that Bopp seriously distinguished three linguistic types only, as mentioned above (see p. 84), then we have to acknowledge that in all probability he took Malayo-Polynesian to belong to the same "type" as Sanskrit; they both had monosyllabic roots (a historical concept) and were capable of composition.

38. Qualifications are needed, because once again we come across the basic ambiguity of the term "organism." Cassirer (1953, pp. 153ff.) argues that Herder was the first to formulate the organic concepts that had crucial importance in Romantic thought and that Friedrich Schlegel introduced these concepts into linguistic discussion. Nüsse (1962, p. 44) objected that Humboldt might have priority over Schlegel, and following Arens (1969, p. 171) he referred to an 1895 letter by Humboldt to Schiller where language is called *ein organisches Ganze* (Humboldt 1962, 1: 150). Later than 1808, but closer to Bopp in terminology and outlook, is Humboldt's 1812 article about Basque, with its reference to linguistic *Zergliederung* and its quasi-identification of grammar and organism. Yet there is a considerable difference between those who see in language an autonomous biological organism with its own laws of development and those who simply

stress the systemic, structured, "organic" character of language, or use "organic" as an adjective of praise, or emphasize the organic connection between language on the one hand and thoughts or feelings on the other. Humboldt, Bopp's friend and mentor, cannot belong to the first group if he stresses, as he does repeatedly, that the identification of language and a *Naturkörper* can only be metaphorical (see Picardi 1977, p. 31; Koerner 1975, pp. 741ff.). In the very sentence quoted by Nüsse, he also points out that language is so closely connected with the individuality of the speakers that this *Zusammenhang* cannot be ignored. Where does Schlegel stand with respect to this dichotomy? He does distinguish between organic and nonorganic languages, which at first sight would seem to prevent him from making "organicistic" statements about language in general, and here and there he is certainly concerned with nations and speakers. Yet in 1808 he tends to describe the character of organic languages as if they were autonomous units (Lepschy 1962, p. 185 [1981, p. 54]). Here Bopp is closer to Schlegel than to Humboldt, though he too, like Humboldt, rejects a typology based on the organic/nonorganic distinction. A detailed and factual history of the concept of language as an organism still remains to be written, but even with the data we have, we can see that at some stage a number of scholars oscillated between the various interpretations of organism.

39. Obviously I do not refer to Cuvier's more detailed investigations or to his *principe de corrélation des formes*.

40. Around the end of the eighteenth century and the beginning of the nineteenth, the emphasis on organic and organism in all intellectual circles must have been overpowering. The same terminology recurs in Schelling's *Philosophie der Natur* and, for example, in the works of someone like Cuvier, who disapproved of the obscurity of that brand of German philosophy and of its constant switching between *métaphysique et physique* (Flourens 1858, pp. 272ff.); Kant and Goethe are as important in this connection as the early exponents of Romanticism; Savigny constantly refers to the organic nature of language (and law), and so does Humboldt. It looks as if no thinker or scholar, whatever his intellectual background or his theoretical inclinations, could escape the terminological (and ideological) infection. Bopp himself must have been exposed to the contagion in more than one way, but we should not forget the close links between him and his patron K. J. Windischmann, editor of the *Conjugationssystem*. In his turn Windischmann had links with the circles of German Romanticism and for a while was in regular correspondence with Schelling.

41. For Bopp, *-mi* and *-m* are functionally equivalent because in his view the distinction between present and past relies entirely on the absence or presence of the augment.

42. The choice of *-mi* as the original form, which relegated *-m* to the status of an innovation, must have been determined by two motives. First, Bopp's phonological theories allowed him to account far more easily for the loss of a final vowel than for its introduction. Secondly, *-mi* was closer than *-m* to the first person pronoun from which Bopp wanted to derive the ending. We now assume that at a very early stage of Indo-European there was only one ending *-m*; *-mi* was created later, but still in the Indo-European period, adding to *-m* an *-i* element that indicated the *hic et nunc*. There is no difficulty in rejecting (on phonetic and other grounds) Bopp's view, but it is more difficult to justify the decision to attribute to the early phases of the parent language one set of endings rather than two.

43. I have quoted from Bernard's translation (Kant 1931, pp. 280–281). The original text runs: "*Ein organisirtes Product der Natur ist das, in welchem alles Zweck und wechselseitig auch Mittel ist. Nichts in ihm ist umsonst, zwecklos, oder einem blinden Naturmechanism zuzuschreiben. . . . Dass die Zergliederer der Gewächse und Thiere, um ihre Structur zu erforschen und die Gründe einsehen zu können, warum und zu welchem Ende solche Theile, warum eine solche Lage und Verbindung der Theile und gerade diese innere Form ihnen gegeben worden, jene*

Maxime: dass nichts in einem solchen Geschöpf *umsonst* sei, als unumgänglich notwendig annehmen. . . ." (Kant 1908, pp. 376-77; emphasis in the original).

44. Here the structuralist and functionalist component of Bopp's conception of organism comes to the fore, but we also see the difference between this approach and that of Saussurean structuralism.

45. A similar but different problem is discussed in Bopp 1820, pp. 35ff. In Sanskrit the same ending appears in the first and third person singular and in the second person plural perfect. Bopp points out that first and third person singular were also identical in Gothic and, in his view, in Greek (for him the *-a/-e* distinction is secondary). Nevertheless he concludes that we should not reconstruct for the parent language the same form for first and third persons singular perfect: "However old this rejection of the personal characteristics may be . . . I consider that the omission of the pronominal signs in three different persons, in Sanskrit, was not a defect of the language in the primitive state." The same conclusion is reached, more explicitly, in Bopp 1833-1852, p. 857. The comparative evidence, we are told, might lead to the conclusion that the loss of personal markers had already occurred in the period of unity, before the separation of the Indo-European languages. Yet this conclusion is not necessary because the presence of the reduplication in the perfect would have provided a natural motivation for the weakening of the endings, so that the different daughter languages could have followed the impulse independently. No reason is given for the assumption that there were different endings to start with. If we try to understand Bopp's motives now, we are bound to be influenced by the view we take of his general background. In rationalistic terms we may remember that for the *Grammaire de Port Royal* a verb is "un mot qui signifie l'affirmation avec designation de la personne, du nombre, et du temps" (Arnauld and Lancelot 1660, p. 97), ("a word which signifies affirmation while designing the person, number and tense") so that Bopp may feel entitled to look for a different person marker in the first and third person. On the other hand, we have seen that in an organism each part has a definite function; what would be the function of a person marker that does not distinguish first and third person? In fact, we do not even need to think of the *Grammaire de Port Royal* or the organic view of language. Any traditional grammarian who favored the "analogy" side of the old controversy would have tried to explain away the identity of the endings in question as Bopp did. In this connection it is interesting to observe that Humboldt's 1812 article, referred to above, combines a great deal of "organicism" with a number of "analogical" statements.

46. Organicism dies hard. In spite of the earlier attacks by Steintal, Bréal, Whitney, the neogrammarians, Saussure, etc., in 1925 the German author of a reputable book on the history of writing (Jensen 1925, p. 7) found it necessary to quote with total approval a French predecessor in the same field (Berger 1891, p. ix): "Comme les langues, les écritures sont des organismes vivants, soumis aux lois de la transformation." ("Scripts, like languages, are living organisms which obey rules of transformation.") It is ironic that in the same pages Jensen also quotes with approval two strong enemies of "organicism," Paul and Steinthal (admittedly on different matters). Less surprising is the dedication to Ernest Renan of Berger's book. In view of Bopp's attempts to recognize the same *modus operandi* in different periods of the history of a language, it is worth remembering that in his Geneva lectures Saussure found it useful to attack this attitude as the last bulwark of organicism: "En reconnaissant que la prétention de Schleicher de faire de la langue une chose organique (indépendante de l'esprit humain) était une absurdité, nous continuons, sans nous en douter, à vouloir faire d'elle une chose organique dans un autre sens en supposant que le génie indo-européen ou le génie sémitique (veille) sans cesse (à) ramener la langue dans les mêmes voies fatales" (Saussure 1967-1968, I: 514; cf. also Morpurgo Davies 1975, p. 678). ("Though we are aware of the absurdity of Schleicher's attempt to make of language something organic which is independent of human spirit, nevertheless we continue, without real-

izing it, to try to make of it something organic in another sense, since we suppose that the Indo-European genius or the Semitic genius constantly aim at leading language back along the same predestined paths.")

In recent years organic terminology and metaphors have frequently reappeared in linguistic discussion (see, e.g., Chomsky 1975). Yet there is no hint, nor could there reasonably be, of the identification of language and a living organism. De Mauro (1981, p. 239) refers to a statement by Chomsky (1975, p. 11) according to which "the idea of regarding the growth of language as analogous to the development of bodily organism is thus quite natural and plausible." It is with some relief that one discovers that "bodily organism" is a misprint for "a bodily organ." The question concerns, of course, the problem of language acquisition by the child. In comparing language to something that grows on the human organism, like wings on a bird, Chomsky is relatively close to the early Romantics and above all to Humboldt.

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