

EDUCATIONAL FUTURES: RETHINKING THEORY AND PRACTICE

Semiotics Education Experience

Edited by Inna Semetsky

Foreword by Marcel Danesi



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EDUCATIONAL FUTURES
RETHINKING THEORY AND PRACTICE
Volume 43

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MARCEL DANESI

FOREWORD

Edusemiotics

The word *semiotics* derives from the ancient Greek words for *sign* and *signal*. As the discipline studying and documenting signs, sign behavior, sign creation, and sign functions, semiotics is an ideal tool for conducting research in various domains, and especially in the domain dealing with how signs are learned. Human beings are sign-users, and semiotics can also serve as a meta-language the function of which is to describe human action. Semiotics exceeds the science of linguistics, the latter limited to verbal signs of words and sentences, and encompasses both natural and invented signs, such as culturally specific artifacts. As currently practiced, semiotics is used mainly as a methodological tool to study such sign-based phenomena as body language, aesthetic products, visual communication, media, advertising, narratives, material culture (clothing, cuisine, etc.) and rituals—in a phrase, anything that is informed by sign-based activities or behavior. One of its modern-day founders, the Swiss philologist Ferdinand de Saussure (1857–1913), defined it as the science concerned with “the role of signs as part of social life” and “the laws governing them” (Saussure, 1916, p. 15). From this basic conceptual platform, semioticians started around the middle part of the twentieth century to collaborate with cognate disciplines and develop interdisciplinary branches, such as zoosemiotics, biosemiotics, media semiotics, anthropological semiotics, and so on.

Until recently, the idea of amalgamating signs with learning theory and education to establish a new branch, which can be called *edusemiotics*, has never really crystallized, even though the great Russian psychologist Lev S. Vygotsky had remarked already in the 1930s that the “very essence of human memory is that human beings actively remember with the help of signs” (1978, p. 51). In these words can be detected the *raison d’être* for establishing a connection between *semiotics* as the science of signs, *learning theory* or the science of how signs are learned, and *education*, that is, philosophy coupled with the practical art/science of teaching individuals how to interpret and understand signs.

The person who has in recent times most attempted to bring semiotics and education closer together is the Editor of the current magnificent volume that I would consider to be the foundational text for sculpting a veritable *edusemiotics for the future*. Needless to say, much important work on the viability of using semiotics in education has been conducted throughout the twentieth century. But what is lacking in my view from the relevant literature is a practical framework for synthesizing the many, yet still scattered, insights into how human representational systems are learned and how these can be used to construct appropriate pedagogical curricula and methods. This book will allow semioticians and educators working together to do just that.

Let me say a few words first about the range and scope of the various essays in the volume before I come back to the notion of edusemiotics. The opening chapter by Winfried Nöth is a wonderfully-crafted synopsis of the many reasons and criteria for forging an edusemiotics, based on the obvious, but still not widely-accepted, fact that semiotics is the ideal tool for understating learning in its corporeal and experiential totality. The chapter written by Andrew Stables then lays the epistemological notions that will allow for an integration of learning theory, educational practices, and semiotics. All new branches need a theoretical apparatus and a philosophical foundation with which to evolve and through which research can be conducted. Stables provides one. Modifications to any model, such as this one, will come with experience and through a debate of the relevant research findings. Howard Smith's chapter explicates how the Peircean view of the sign is the appropriate one for edusemiotics. The sophisticated, yet marvelously clear, model of semiosis that Peirce has left for us is truly an insightful one for understanding an integrative mind-body-experience basis of how human beings learn new things and how they infer meanings from the information they process. Essentially, Peirce showed us that there are two basic processes involved in semiosis that can be characterized as "know-how" and "knowledge". The latter is the desired end-state of any learning process; but the former entails creative and imaginative processes that must be activated in order for learning to occur in the first place.

Semetsky's first essay deals with a critical aspect of any educational situation, namely the moral basis of education. But morality is a matter of history, not biology, and thus has to be revisited by educators in the light of the unique expository method for understanding this as based on Dewey's and Peirce's philosophies of nature and semiosis. This approach provides the conceptual tools for penetrating the moral instinct within us in its varying culturally-specific manifestations and, thus, for drafting a morally-neutral, yet ethically-appropriate, theory of learning as embodied in experience. Torjus Midtgarden's chapter is a clear, seriously-contemplated research into developing a theoretical model for edusemiotics (as I have called it here). More important than the actual model proposed here is the remarkable depth of historical knowledge that the author brings to the chapter. There is no science without a historical/cultural platform on which it can be constructed. The chapters by Sébastien Pesce, Tony Whitson (who provided two essays for this volume), Ronald Bogue and Inna Semetsky, Deborah L. Smith-Shank, and the two by Wolf-Michael Roth and Michael G. Hoffmann look at the educational/learning experience from different semiotic angles and in the interdisciplinary contexts. What we get from their chapters is a theory-practice nexus elaborating on how edusemiotics can, concretely and experientially, enrich educational (importantly, both formal and informal) practices and what kinds of curricular and pedagogical implications it enfold. Undoubtedly, practice informs theory, as Peirce certainly taught every semiotician. Thus, these essays provide specific conceptualizations that can be amalgamated into an overall theory of edusemiotics. The remaining chapters by Louis H. Kauffman on virtual logic, Inna Semetsky on the ancient "Know Thyself" modality of education and the semiotics of

images, and Tomasz Szuklarek on the political ideologies in educational practices, provide the finishing philosophical touches to the emerging model of education and the viability of an edusemiotics.

Semiotics is ultimately a form of inquiry into how humans shape raw sensory information into knowledge-based categories through sign-interpretation and sign-creation, that is, through the use of forms that stand for the categories. Signs that penetrate the flux of information are intelligent selections which are taken in by our senses or our intuitions, allowing us to encode what we perceive as meaningful in it and, thus, to learn and remember it. We are born into a system of sign-use, called the *semiosphere* by the late Estonian semiotician Yuri Lotman (1922–1993), that will largely determine how we come to view the world around us (Lotman, 1991). The semiosphere, like the biosphere, regulates human behavior and shapes social evolution. But although we humans do not appear to do much about the biosphere, we still have the ability to reshape the semiosphere in the course of our actions and socio-cultural practices. This ability to create new signs and sign systems is what distinguishes human semiosis from all other kinds of sign and signal systems in other species. Our textual resources, for instance, stimulate us to seek new meanings and new ways of seeing the world. These open up the mind, encourage creativity, and engender freedom of thought. As Charles Sanders Peirce often wrote in his correspondence, it would seem that as a species we are inclined to “think only in signs.”

The difference, yet intrinsic interconnection, between semiosis and human intelligent action can be seen in early childhood behaviors. When an infant comes into contact with an object, his/her first reaction is to explore it with the senses, that is, to handle it, taste it, smell it, listen to any sounds it makes, and visually observe its features. This exploratory phase of knowing, or of *cognizing*, an object can therefore be called *sensory cognizing* (Sebeok and Danesi, 2000), because the child is using innate sensory systems to cognize the object in terms of how it feels, tastes, smells, etc. The resulting units of knowledge allow the child to *re-cognize* the same object subsequently so that he/she will not have to examine it over again with the sensory apparatus. Now, as the infant grows, he/she starts to engage more and more in *semiotic* behavior that clearly transcends this primary sensory cognizing phase; i.e. he/she starts to imitate the sounds an object makes with the vocal cords and to indicate its presence with the index finger. At that point in the child’s development, the object starts to assume a new mental form of knowledge; it has, in effect, been transferred to the physical strategy itself used by the child to imitate its sound features or indicate its presence. This strategy produces the most basic type of sign which, as Charles Morris (1946) suggested, allows children from that point on to replace the sign for the object. Psychologically, this is known as *displacement*. As children grow, they become increasingly more adept at using signs to represent the world in a displaced, indirect, manner.

The instance children start to understand the world through signs, they make a vital psychosocial connection between their developing bodies and conscious thoughts to that world. To put it figuratively, signs constitute the “representational

glue” that interconnects their body, their mind, and the world around them in a holistic fashion. Moreover, once children discover that signs are effective tools for thinking, planning, and negotiating meaning with others in certain situations, they gain access to the historically-produced knowledge repertoire of their culture. At first, the child will compare his/her own attempts at representation against their repertoire in specific contexts. But through protracted exposure and usage, the signs acquired in such contexts will become cognitively dominant in the child, and eventually mediate and regulate his/her thoughts, actions, and behaviors. Culture, context, and experience thus reshape the inbuilt learning system for the developing human being into a filter that allows him/her to reorganize the raw, yet functional, information: to process it into meaningful wholes. As a consequence, understanding of the world is not a direct one. It is mediated by historically-based signs and, thus, by the referential domains that they elicit within mind-space. In effect, learning is a semiotic process. No more, no less.

Mainstream, culture-wide educational research and practices have, to the best of my knowledge, hardly ever been shaped by semiotic theories or insights, at least until the last decade or so, thanks in no small part to people like Inna Semetsky. Education has traditionally turned to psychology to help it transform teaching into a more “learning compatible” and “performance-oriented” activity and much less to philosophy with the attention of the latter to epistemology, ontology, ethics, and deep perennial questions. The ultimate purpose of this volume is to show how semiotics can easily be adapted to this partnership, which now can be enriched with the insights of semioticians on how learning unfolds in accordance with the novel principles, unorthodox laws, and implicit and explicit properties of semiosis. The idea of incorporating semiotics into educational theories, practices, and curricula is not entirely new, but it needs to be stressed and illustrated in all kinds of ways. By its very nature, semiotics is an interdisciplinary and transdisciplinary form of inquiry. The time has come to cast the findings and methodology of semiotics onto the domain of its natural relative discipline—education. This cross-fertilization, in my view, will benefit both semiotics and education.

The semiotic agenda for Educational Futures, as well as the semiotics-informed research, as this volume makes clear, would focus on educational programs addressing both the philosophical foundations of semiotics and semiosis and broad aspects of experiential learning. It would do this by integrating semiosis, experience, and the multiple cultural contexts of learning. I started off this brief Foreword by citing the great Vygotsky. I return to him as a concluding reflection. As Davydov and Radzikhovskii (1985, p. 59) have observed, for Vygotsky signs invariably mediated mental functions. They also point out that the “studies of the sign mediated nature of mental functions have not developed further” since Vygotsky, but that this “can be considered a weakness that can be overcome in the future.” This weakness has been gradually overcome since 1985 when these words were written. The present volume is one of the signs (no pun intended) of how it has indeed been overcome.

REFERENCES

- Davydov, V. V. and Radzikhovskii, L. A. (1985). Vygotsky's theory and the activity oriented approach in psychology. In *Culture, Communication and Cognition: Vygotskian Perspectives*, J. V. Wertsch (ed.), 59–69. Cambridge: Cambridge University Press.
- Lotman, Y. (1991). *Universe of the Mind: A Semiotic Theory of Culture*. Bloomington: Indiana University Press.
- Morris, C. (1946). *Signs, Language and Behavior*. Englewood Cliffs, N. J.: Prentice-Hall.
- Peirce, C. S. (1931-1958). *Collected Papers of Charles Sanders Peirce*, Vols. 1-8, C. Hartshorne and P. Weiss (eds.). Cambridge, Mass.: Harvard University Press.
- Saussure, F. de. (1916). *Cours de linguistique générale*. Paris: Payot.
- Sebeok, T. A. and Danesi, M. *The Forms of Meaning: Modeling Systems Theory and Semiotics*. Berlin: Mouton de Gruyter.
- Vygotsky, L. S. (1978). *Mind in Society*. Cambridge, Mass.: Harvard University Press.

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WINFRIED NÖTH

1. THE SEMIOTICS OF TEACHING AND THE TEACHING OF SEMIOTICS

Semiotics and education are research fields with mutual interests and overlaps. The study of signs and sign processes help to understand how teaching means to communicate by means of signs and how learning means to interpret and to grow in the capacity of interpreting signs. Semiotics offers tools of analysis in the teaching of school subjects teaching verbal, nonverbal, and visual languages, and the teaching of semiotics itself in classes, courses, programs of study, and by means of introductions to semiotics in the form of books or internet sites has didactic implications as well as consequences for editorial and academic politics.

SEMIOTICS, TEACHING, AND LEARNING

Semiotics is relevant to education in two respects: On the one hand, teaching and learning have semiotic implications since they are both processes of semiosis; on the other, the study of processes of learning and teaching are part of, and contribute to, the study of the ontogeny of signs and communication, which is a branch of semiotics. The fields in which both disciplines overlap include the theoretical foundations of education, methodological and practical aspects of teaching and learning, as well as the questions of the ontogeny of signs and communicative competence.

The interface of semiotics and education in general has been the topic of programmatic papers and state-of-the-art reports by Bense (1977), Imbert (1980), Bettetini (1986), Cunningham (1987a, 1992, 2003), Sebeok et al. (1988), Poupard (1990), Nöth (1994), and Smith (2007), collective volumes edited by Brög (1977) and Bernard (1983), and special issues of the journals *Bulletin du groupe de recherches sémio-linguistiques* 7 (1979) and 42 (1987), *Degrés* 38 (1984) and 77 (1994), *Langue Française* 61 (1984), *Zeitschrift für Semiotik* 7.4 (1985) and 22.1 (Hoffmann 2000), *American Journal of Semiotics* 5.2 (1987), and *Educational Psychology Review* 4.2 (1992) as well as special issues of the journals *Educational Philosophy and Theory* (36.3 and 37. 2) and *Studies in Philosophy and Education* (26.3), edited by Semetsky (2004, 2005, 2007a).

Semiotic Foundations of Pedagogy

Bense (1977, p. 23) describes semiotics as fundamental to pedagogy because the theory of signs investigates and is able to develop the cognitive faculties of learners of all sensory modalities and offers the general theory of communication and the media necessary for the methodology of teaching. Cunningham (1987b, p. 214)

argues that “education based upon semiotic insights” influences our conceptions of curriculum by regarding knowledge “as a process, not a static structure to be learned and remembered.”

In his dialogue with T.A. Sebeok and J.O. Regan on “Semiotics in Education”, S.M. Lamb circumscribes the relevance of semiotics to the study of teaching and learning as follows: “Obviously education is information processing par excellence; therefore, education is right at the heart, or should be right at the heart, of semiotics. Education is a process in which the educatees, students, are building information structures within their minds” (in Sebeok et al., 1988, p. 9). In the same dialogue (see also Kaye, 1990), Regan accounts for the importance of semiotics to teaching by the argument that semiotics “examines fundamental and highly abstract concepts that are at the basis of education, namely, mind, learning, and information,” and that semiotics has provided a new perspective to pedagogy by the “broadening of interest beyond the verbal into the nonverbal” (ibid., p. 1–2). For Sebeok’s own contributions to the semiotics of education see Ponzio (2002), Petrilli & Ponzio (2005, pp. 223–230).

Peircean foundations: experience and surprise. Among the schools of semiotics of particular relevance to the study of education is Peirce’s semiotics (Houser 1987). Shank (1987), Cunningham (1987b), and Cunningham & Sugioka (1999, p. 207) discuss the relevance of Peirce’s method of abductive reasoning and the Peircean principle of semiosis as an infinite progress in learning and teaching. Grenier-Francœur (1989, p. 243) underlines the reciprocity of the relation between the sign and its learner with reference to Peirce’s insight that “men and words reciprocally educate each other; each increase of a man’s information involves and is involved by, a corresponding increase of a word’s information” (CP 5.313, 1893).

Important elements of pedagogy can be found in Peirce’s pragmatism. In 1903, Peirce formulates a pragmatic theory of the importance of experience in learning (see also Peirce, 1958, pp. 325–44 on “Science and Education”). His pragmatic maxim, applied to the domain of education is: “Experience is our only teacher” (CP 5.50). In his paper “What pragmatism is”, the founder of pragmatism explains why book learning is not enough. From his own experience as an experimental scientist, Peirce tells us why only practical experience, learning by experiment, teaching by examples, and observing the consequences of their doing can guide learners to knowledge:

The writer of this article has been led by much experience to believe that [...] every master in any department of experimental science, has had his mind moulded by his life in the laboratory to a degree that is little suspected. [...] With intellects of widely different training from his own, whose education has largely been a thing learned out of books, he will never become inwardly intimate [...]. Were those other men only to take skillful soundings of the experimentalist’s mind – which is just what they are unqualified to do, for the most part – they would soon discover that [...] his disposition is to think of everything just as everything is thought of in the laboratory, that is, as a question

of experimentation. Of course, no living man possesses in their fullness all the attributes characteristic of his type: it is not [...] the typical pedagogue that will be met with in the first schoolroom you enter. (CP 5.411, 1905)

Experience means the predominance of the phenomenological category of secondness in contrast to the one of firstness of freedom, creativity, and spontaneity: “The idea of second must be reckoned as an easy one to comprehend. That of first is so tender that you cannot touch it without spoiling it; but that of second is eminently hard and tangible. It is very familiar, too; it is forced upon us daily; it is the main lesson of life. In youth, the world is fresh and we seem free; but limitation, conflict, constraint, and secondness generally, make up the teaching of experience” (CP 1.358, c. 1890).

The most significant didactic effect of learning by experiment, according to Peirce, is the one of surprise: “It is by surprise that experience teaches us all she deigns to teach us” (EP 2, p. 154). Surprise is especially involved in acquiring new knowledge because only surprise and new experience can change old beliefs. We “believe until some surprise breaks up the habit. The breaking of a belief can only be due to some novel experience” (CP 5.524, 1905):

It is by surprises that experience teaches all she deigns to teach us. In all the works on pedagogy that ever I read – and they have been many, big, and heavy – I don’t remember that any one has advocated a system of teaching by practical jokes, mostly cruel. That, however, describes the method of our great teacher, Experience. She says, ‘Open your mouth and shut your eyes / And I’ll give you something to make you wise;’ and thereupon she keeps her promise, and seems to take her pay in the fun of tormenting us. (CP 5.51, 1903)

Learning as semiosis. According to Cunningham (1987b, p. 204), semiotics can help pedagogy to overcome its problematic behaviorist heritage. Instead of explaining learning processes atomistically and postulating a dualism between the learner’s mind and the knowledge to be learnt, semiotics, according to Cunningham (1985, p. 432; 1987c, p. 196) offers an integrative approach which “sensitizes us to the notion that cognition always involves an interaction between the physical world and the cognizing organism,” and “questions the possibility of absolute knowledge, which stresses the provisional nature of questions and which emphasizes the knowledge generating process itself.”

The pedagogical insight that knowledge is “a process, not a static structure to be learned and remembered” (Cunningham, 1987b, p. 214) has its semiotic foundation in Peirce’s theory of semiosis as an infinite progress of becoming by which signs and meanings are connected by the human mind (cf. Sebeok et al., 1988, pp. 24–25; Semetsky, 2007b, p. 209).

Zellmer (1979, pp. 18, 43; 1980), who calls pedagogy a “guidance to semioses”, considers the Peircean triad of firstness (in the cognition of elements), secondness (in the cognition of structures) and thirdness (in the influence of elements on structures) to be constitutive of three successive phases of learning. On this basis, the author reinterprets Piaget’s developmental phases from the sensomotoric and preoperative

phases to the phase of formal operations as a semiotic progress from rhemes via dicents to arguments and from icons via indices to symbols. Iconic signs, according to Zellmer (1979, pp. 52–53), contribute to didactic motivation, but they are also predominant in mere repetitive learning; indexical signs serve to capture and direct the learner's attention. Both icons and indices are characteristics of teaching and learning by examples (cf. Kledzik, 1985). The learning of symbols involves the highest mode of semiosis, since they presuppose “semiotic autonomy and the free choice of signs” (Zellmer, *ibid.*).

Semiotics as an integrative framework. The role of semiotics in pedagogy is the topic of a programmatic paper entitled “Semiotics and the School” by Charles Morris (1946, p. 327) in which the author argues that “an education which gave due place to semiotics would destroy at its foundations the cleavage and opposition of science and the humanities.” This integrative momentum of semiotics is further pursued by Cunningham (1987a, p. 370), who sees the relevance of a semiotically informed curriculum in its ability to “decompartmentalize knowledge”. In support of this argument, Thomas (1987, p. 296), e.g., writes that “to understand the value of semiotics is to understand and appreciate its capacity to cut across established disciplines without losing the power of its insight. To value semiotics is to recognize the growing need for integrating current curricula towards some unified end.” The potential of semiotics to overcome the cleavage between science and the humanities is also the topic of Sebeok's tour d'horizon of semiotics in his contribution to the dialogue on “Semiotics in Education” with Lamb and Regan (Sebeok et al., 1988). Imbert (1980, pp. 278–89), in his paper on “Multidisciplinarity, semiotics, and pedagogy” develops the thesis that semiotic elements “in a pedagogical reform lead finally to trying to establish the place of the subject in the world and to ask whether the distinction between natural and cultural is still valid.”

Semiotic axiology. Closely related to the argument “that semiotics provides a useful framework for conceptualizing the curriculum” (Suhor, 1984, p. 250) is the idea of the relevance of semiotics to curricular evaluation. Morris (1946, p. 327), to whom valuation was a key concept in his theory of sign use, based his plea against the cleavage between science and the humanities on his theory of valuative sign use when he argues: “For the importance of accurate knowledge in the formation of preferences and decisions would at no place weaken the importance of forming preferences and decisions relevant to the insistent problems of personal and social life.” The idea of the critical evaluative potential inherent in semiotics is also adopted by Imbert (1980, p. 280), who argues that semiotics “allows us to understand semantic and axiological paradigms which are censuring ourselves,” thus contributing to individual creativity and cultural innovation. At an institutional level, the idea of semiotics as an instrument in pedagogical axiology has been adopted by Tucker & Dempsey (1991, p. 74), who develop a semiotic model for the evaluation of educational programs on the basis of the insight that semiotics offers a context for “evaluating with a perspective that is holistic, respects complexity, and fosters synthesis.

Ecology and ecological pedagogy. Rossi (1987) discusses the pedagogical potential of Uexküll's theory of *umwelt*: Cognition takes place in an environment which does not exist objectively, that is, independently of the way the perceptual organs of a given species presents its environment to the cognizing minds. What a subject perceives is not an objective reality, but a reality mediated by the way the perceptual organs present it to the subject. The author argues that teachers should operate according to an "umwelt discrepancy hypothesis" and take into consideration that students and teachers possess diverse environments characterized by their different life experiences and cultural backgrounds: "Teachers must always ask themselves whether the experiences they selected today for their students match the young Umwelten under their direction" (Rossi 1987, p. 308).

Lier (2004) presents an ecological-semiotic approach to language learning which imparts the insights that language can only be studied in a "situated or contextualized way" and that a pedagogical paradigm shift "from guidance to action" is necessary (p. 20). "Semiotics and ecology go hand in hand" since "an ecological perspective on language leads to a placement of learning within a semiotics of space, time, action, perception, and mind" (p. 55). In Lier's definition, language learning is a "sign-making process in learning contexts [...] constituted of physical, social, and symbolic opportunities for meaning making, and the central notion that drives this meaning making is *activity*" (p. 62). Another key concept of Lier's semiotics of language learning is the concept of affordance from Gibson's ecological psychology: "Activity, perception, and affordance are the ingredients out of which signs grow, and from which language emerges. [...] Signs are not objects out there, nor thoughts in here, but relationships of relevance" (p. 63). These ecosemiotic premises (cf. Nöth, 1998) lead to the definition of the sign as a "mediated affordance" which "starts out as dialogical relationships between the person and 'something out there'" (p. 63) and evolves in processes of semiotic growth: "In the beginning there are *voice* and *face* (as well as touch, taste, and smell), affordances perceived directly, and gradually meaningful signs emerge from and around those anchors of security, those Firstnesses. Once affordances have grown into signs and signs have created the indexical infrastructure to grow language, we use language to reassure ourselves that we know where we are" (p. 63).

Teaching as Communication

The communicative aspects of teaching have different semiotic dimensions. Bock (1978, pp. 128–75), Rector & Perry (1984), and Suhor (1984) take Morris's three dimensions of semiotics, syntactics, semantics, and pragmatics, as a framework for the study of pedagogical communication. Others have focused on various discursive aspects of pedagogical communication.

Asymmetry of teaching and learning. Teaching is an asymmetrical communication process, the more so if its method is traditional didactic teaching (Dobnig-Jülch et al., 1981). The authority which teachers have as to their social status and professional competence characterize the situation in the classroom a communicative interaction

between unequal partners. From the point of view of social semiotics, Lemke (1987, p. 221) describes the ideology of evidence and authority in the teaching of science as a rhetoric of “evidence and logic” which “presumes that evidence ‘just exists,’ not that people have to decide that something shall count as evidence.” In conclusion of his critical investigation of ideological discourse in the teaching of science, Lemke (1987, pp. 228–29) argues that social semiotics serves to reveal the “discourse patterns that sustain the inequities of our own society. Education and semiotics meet not only in the common study of how we learn to make socially meaningful ‘signs,’ they meet also on the field of social responsibility, where we must learn together how to make meaningful social change.” Wunderlich (1969), Neuner (1979), and Zarcadoolas (1983) have studied the communicative determinants of teaching and learning from the point of view of linguistic pragmatics.

Teaching as discourse. Semiotic aspects of teaching characterize the approach of the Paris School of Semiotics to pedagogy (Fontanille, Ed. 1984, pp. 7–8, Illera 1990). In his outline of a semiotics of pedagogy, Greimas (1979, p. 8) argues that the teacher’s “persuasive doing” manifests itself in a “normative meta-discourse.” The pedagogical goal of teaching should not only be to transmit a semantic competence; the students should also acquire a modal competence of the subjects taught at school, which enable them to recognize their social values and turn them into objects of desire, necessity, and possibility. The teacher should not only have the knowledge to be transmitted but also the power to do so, despite the “almost institutionally bad conscience” associated with it. The “demythification” of didactic strategies should hence be the goal of a new pedagogy (1984, p. 127–8). At the same time, Greimas opposes a didactics relying on institutional authority, predicting that the semiotics of teaching “once constituted, will essentially be a maieutic,” and a call upon teachers to adopt the Socratic method of eliciting knowledge and clarifying doubts in a dialogic interaction between equal partners.

SEMIOTICS IN THE TEACHING OF SCHOOLS AND SCHOOL SUBJECTS

What is the role of semiotics in the teaching of different school subjects? Does semiotics, as one may ask with Greimas (1984, p. 122), play the role of a helper or the role of a subject? Semiotics is not a school subject of the curriculum of high schools, but elements of semiotics have been introduced and applied in the lessons of teachers of many language and communication related subjects.

Teaching Semiotics in Primary and Secondary Schools

In primary and secondary schools, semiotics is not a separate school subject. A justification of this exclusion of semiotics from the curriculum of public schools can be found in Morris’s theses on “Semiotics and the School”:

Semiotics as a separate discipline need not be introduced into the early levels of the school system. The acquisition of skills is not facilitated by undue attention about such skills. Skill in the use of signs would not be best served in the early

years of education by the too early introduction of a technical semiotic vocabulary. But in a non-technical language, and throughout every phase of the educational system, it would be possible to acquaint students with the main kinds of signs, and the purposes which they serve. [...] At the level of higher education, a specific and detailed study of semiotic can serve to raise to fuller awareness the training in the adequate use of signs which should have occurred throughout the earlier levels. (Morris, 1946, pp. 325–26)

In spite of these arguments, some teachers have written about their experience with teaching semiotics in the high school curriculum. Mariani Ciampicacigli (1985) has written a *Guide to a Semiotics for School* and Thomas (cf. 1984, 1987) has proposed a semiotics curriculum and developed textbook materials (Thomas, Ed., 1980–83). Elements of semiotic theory and results of applied semiotic research have been introduced in school within the framework of various traditional school subjects, primarily in language and arts courses (for surveys see Imbert, 1980, Suhor, 1984, Cunningham, 1987b). Concerning the place of semiotics in the teaching curriculum of schools, Imbert argues:

From an ideal semiotic point of view, a true and complete methodology of pedagogy should lead to a program that would allow, at the same time, both the freedom of being mastering (consciously or unconsciously) the rules of the manifold systems giving him the possibility to communicate, and also the freedom of the being who would be able to break the rules and to ‘see’ beyond the systems. (Imbert, 1980, p. 280)

Language Education

Rossi (1987), Cunningham (1985, 1992), Cunningham & Sugioka (1999), Danesi (2000, 2002, 2007), and Lier (2004) discuss semiotic aspects of language education. The goals and methods of first and second language pedagogy are evidently rather different, and their semiotic implications, too. While this section is restricted to the semiotics of first language education, semiotic aspects of foreign language learning and teaching are the topic of the next section.

First language teaching. Experience with introducing basic concepts of semiotics in language teaching classes is reported by Kleinschmidt (1973), Pütz (1973), Maurand (1984), and Danesi (2002). The topics of the classes described in these papers are the nature of the verbal sign in relation to nonverbal and visual signs. Other semiotic studies in first language teaching are on vocabulary development (cf. Brög, Ed., 1977, p. 79–104, Zarcadoolas, 1983) and words as symbols (Brög, Ed., 1977). Furthermore, semiotics contributes to the broadening of the scope of language teaching by offering analytic tools for the study of language in the context of nonverbal communication and the media.

Media semiotics. Semiotic aspects of the media in educational contexts have been discussed by Metz (1970), Schanze (1974), Martin (1982), and Suhor (1984). The didactic relevance of visual elements such as pictures Germain (1975),

Jacquinet (1977), diagrams (cf. Mariet, 1978, Pointer 1990), the comics (Robin, 1974, Brown, 1977, Pforte, Ed., 1974, Vogel, 1975, Spillner, 1980), advertising, or film and television, see also Brög (Ed., 1977), Bernard (Ed., 1983), Bettetini (1986), and Sohet (1994). For the relevance of the semiotic space to didactics see Hammad (1979).

Semiotic didactics of literature. Several proposals for introducing elements of semiotics in language teaching classes are in the field of text semiotics, particularly in literary semiotics (cf. Homberger, 1972, Schuh, 1977, Mariani Ciampicacigli, 1980, p. 14–16, Zarcadoolas, 1983). The models adopted in these semiotic teaching projects range from text linguistics (Maurand, 1984, Golden, 1989) and social semiotics (Ventola, 1984, Lemke, 1987, 1989) to Greimas's discourse semantics (Landowski, 1980, Fontanille, Ed. 1984, Keller & Hafner, 1986, Hafner & Schwarz, Eds., 1991), semiotic aesthetics (Spinner, 1977), and Derrida's theory of deconstruction (Kiefer, 1982).

Second Language Learning and Teaching

There are three main areas of contact between semiotics and the theory of foreign language teaching: the methodology of vocabulary teaching nonverbal and visual communication, and cultural semiotics. A semiotic topic in the methodology of foreign language teaching which has been given much attention is the pragmatic dimension of foreign language teaching (cf. Neuner, Ed., 1979, Zarcadoolas, 1983, Baur & Grzybek, 1990, Robra, 1993). Semiotic aspects of teaching syntactics have only rarely been approached (but see Engels, 1978). For general reviews of the semiotics of foreign language teaching see the special issue on "Language Pedagogy and Semiotics" of *Degrés* 38 (1984), Baur & Grzybek (1990), Brown (1991), Danesi (2000, 2002), and Lier (2004).

Semiotic aspects of FL teaching methodology. The methods of foreign language (FL) learning and teaching and their semiotic implications are topics studied by Baur & Grzybek (1990), Brown (1991), and Lier (2004). Applied to the semiotics of FL teaching, Peirce's thesis that "the most perfect of signs are those in which the iconic, indicative, and symbolic characters are blended as equally as possible" (CP 4.448, 1903), can be read as a plea for a pluralistic methodology and complementary methods of FL teaching: Iconic signs predominate when the techniques of the audio-lingual method are applied, which encourage imitation and repetition of foreign language patterns. The audiovisual method, by contrast, with its emphasis on the situational context, combines iconic and indexical procedures in second language teaching. The visual cultural context, within which the foreign language item is placed, is presented as an icon. Indices are used in the form of gestures of showing and other modes of situational and verbal contextualization of the verbal message. The teaching of a FL can only be successful if it can be recalled in the future, and this is why the learning of words as symbols is indispensable, for only "the value of a symbol is that it serves to make thought and conduct rational and enables us to predict the future" (CP 4.448, 1903). The student's awareness of the differences between languages is nothing but an awareness of the symbolic nature of words.

In an elucidating passage on the process of learning new words in a FL, Peirce draws attention to the difference between the way a word is learned in its phonetic form and with respect to its meaning. The teacher introducing the new word can only do so if she or he introduces it first as a pure icon of the way it is to be pronounced. Its meaning can only be grasped if the learner has collateral experience of the object which the word represents:

Suppose a teacher of French says to an English-speaking pupil, who asks “comment appelle-t-on ça?” pointing to the Sun, ... “C’est le soleil,” he begins to furnish that collateral experience by speaking in French of the Sun itself. Suppose, on the other hand, he says “Notre mot est ‘soleil’” then instead of expressing himself in language and describing the word he offers a pure Icon of it. Now the Object of an Icon is entirely indefinite, equivalent to “something.” He virtually says “our word is like this:” and makes the sound. He informs the pupil that the word, (meaning, of course, a certain habit) has an effect which he pictures acoustically. But a pure picture without a legend only says “something is like this:”. True he attaches what amounts to a legend. But that only makes his sentence analogous to a portrait we will say of Leopardi with Leopardi written below it. (CP 8.183, s.d.)

Nonverbal communication. Studies of nonverbal communication and its relevance to second language teaching are Hayes (1964), Reinert & Thiele (1977), Schofer (1977), Ward & Raffler-Engel (1980), Smith (1984), Hübler (1989), Calbris (1990), and Nöth (1990a). General aspects of the intercultural teaching of nonverbal behavior are discussed by Baur & Grzybek (1984). Pedagogical contributions to the study of specific gesture inventories are: English: Nöth (1995a), Hübler (1989), French: Brault (1962), Wylie (1977), Reimann (2000), Spanish and Latin American cultures: Green (1968), Saitz & Cervenka (1972), Rector & Trinta (1985), Russian: Eismann (1983), Arabic: Nasr (1984), German and American in contrast: Loof (1976, 1981).

Media semiotics. Much attention has been given to pictures and other visual context of words and texts in school books (cf. Germain, 1975, Golden & Gerber, 1990) and the audiovisual media in teaching. Semiotic aspects of the media in educational contexts are the topic of papers by Metz (1970), Schanze (1974), Jacquinet (1977), Martin (1982), and Suhor (1984). For the role of pictures in foreign language learning, see also Corder (1966), Germain (1975), Réthoré (1978), Brown (1984), and Bettetini (1986). The didactic relevance of visual elements such as pictures, graphics (cf. Mariet, 1978), the comics (Robin, 1974, Brown, 1977) and symbolic codes in second language teaching is investigated by Rivenc (1973) and Brown (1976, 1984, 1991) in the framework of his semiotic theory of “transcoding.”

Semiotics of culture and intercultural competence. Foreign language learning and teaching must pursue the goal of providing the learner not only with a linguistic but also with an intercultural competence, “the ability to understand culturally molded actions and to perform them in such a manner that they are or can be understood and accepted by members of the target culture” (Baur & Grzybek, 1990, p. 199).

To attain this goal, the teaching of a second language must also be the teaching of another culture. The relevance of cultural semiotics to classroom work aiming at the teaching of the cultural framework of foreign languages has been demonstrated by Beaujour & Ehrmann (1967), Köhring & Schwerdtfeger (1976), Morain (1976), Melenk (1980), Ventola (1984), Kok-Escalle (1988), Baur & Grzybek (1990), Brown (1991), and Danesi (1994, 1999). The teaching objective associated with the learning of the differences on which cultures are based can be taken as a special instance of the pedagogical objective which semiotics, according to Morris (1946, p. 327), should also pursue in the teaching of the differences existing between members of a single culture. In his words, “training in the flexible use of signs means gaining the ability to enter into fruitful interaction with persons whose signs differ from one’s own, ‘translating’ their signs into one’s own vocabulary and one’s own signs into their vocabulary, adapting discourse to the unique problems of diverse individuals interacting in unique situations.”

Other School Subjects

For the didactic use in art classes, early projects for introducing semiotics followed Barthes’s method of revealing ideological messages in the media or Peircean semiotics, as interpreted by Bense. The fields of study are advertising (Ehmer, 1973, Ehmer, Ed. 1971, Sohet 1994), signs of everyday life (Kowalski 1975, Lichtscheidl 1990), photography (Brög 1979, Busse & Riemenschneider 1979), painting (Wichelhaus 1979), and other forms of the visual arts (Sauerbier 1979). A textbook for teaching visual communication in secondary schools which includes an introduction to semiotics is Kerner & Duroy (1977).

Further school subjects to whose teaching semiotic contributions have been proposed are mathematics (Zellmer 1979), natural sciences (Lemke 1987), economics, with special emphasis on trademarks, trade names, samples, and other signs of the market place (Komar 1985), applied arts and crafts (Jansen 1978), religious instruction (Stock 1978, Röller, 1981, Röller, Ed. 1998), and special education for the hearing impaired (cf. Nöth 2010).

TEACHING SEMIOTICS AT UNIVERSITY LEVEL

Semiotics as an explicit subject of teaching is primarily a matter of classes, courses, and programs at the university level. It is taught as a course in programs of semiotics as well as in language, communication, and media studies, but it is also offered as an element of classes not only dedicated to semiotic topics in language, cultural, or media studies. Introductions to semiotics have been written for purposes of orientation, giving a survey, or in order to be used as course books.

Semiotics as an Interdiscipline

Semiotics as an explicit subject of teaching is primarily a matter of university programs. What is the place of semiotics in the concert of university studies? Is it an academic discipline (Eco, 1976, p. 7; Pelc, 1992, Deely, 2009), a subject to be taught

in special courses (a doctrine), as Locke and Peirce saw it, a theory (Eco, 1976), a metatheory (Hjelmslev), a science (Peirce, Morris), or a mere research field (Eco, 1976), an unfinished project (Greimas) or a praxis (Kristeva)? The questions can be raised here, but answers must be sought elsewhere (cf. Nöth, 1990b, p. 312–15). The influential role of semiotics has been the one of an interdiscipline.

Courses in semiotics first began to be offered in Europe and in America in the 1960s in departments of philosophy, language, literature and aesthetics. A brief history of these beginnings is outlined by Sebeok (1976, pp. 176–180, 194b). Semiotics continues to be taught in this interdisciplinary framework in seminars which are regularly reviewed in *Zeitschrift für Semiotik* for the German speaking countries. Summer courses, among them the ones of Bloomington, Toronto, Urbino, Imatra, and Sozopol, have been announced and reviewed in the *International Semiotic Spectrum* (Toronto) and in *Zeitschrift für Semiotik*. Teaching programs and syllabi for semiotics as a major or minor in semiotic studies have been described by Sebeok (1979, pp. 272–79), Koch (1987), and in various institutional program and course descriptions (see also <http://www.semioticon.com/semiotix/>).

Research Centers and University Programs

Centers of semiotic research and chairs explicitly dedicated to semiotic studies have been established internationally in universities such as Aarhus, Bari, Berlin, Bloomington, Bochum, Bologna, Buenos Aires, Helsinki/Imatra, Lund, Kassel, La Plata, Limoges, Mons, Montevideo, Montreal, Nanjing, Paris, Perpignan, São Paulo, Sofia, Tartu, Torino, Toronto, Toulouse, Urbino, Vilnius, or Vienna (cf. Sebeok & Umiker-Sebeok Eds., 1986, 1987, Pelc, 1992, Posner, 1994; <http://www.uni-ak.ac.at/culture/withalm/semiotics/SEMIObiblio/bibl5-ctr.html>). In most of these programs, semiotics is an interdisciplinary endeavor, whose courses are associated with other university programs, such as philosophy, linguistics, language, literary or media studies, aesthetics, communication research, anthropology, or cultural studies.

Introductions to Semiotics

The question of how to teach semiotics in introductory courses is discussed by Danesi (1991) with respect to the textbook issue in a review of some fifteen English-language semiotics textbooks. Further introductions to semiotics in Dutch, English, French, German, Italian and Spanish are briefly reviewed by Nöth (1990a, p. 6). Currently, a much more comprehensive survey of more than 100 introductions to semiotics worldwide is being prepared by K. Kull, M. Tønnessen et al. The author of the present survey acknowledges having profited from the unpublished paper by Kull et al. in updating the bibliographical survey for his own much shorter survey of introductions to semiotics.

A typology and methodology of introductions to semiotics can be set up according to various criteria. Evidently, a classification of the introductions according to the languages in which they are written is one of them.

- *English* introductions are: Innis (Ed., 1995), Eco (1976), Deely (1982, 1990), Hervey (1982), Tejera (1988), Pap (1991), Danesi & Santeramo (Eds. 1992), Danesi (1994, 1999, 2007), Sebeok (1994b), Merrell (1995, 2000), Lidov (1999), and Hall (2007).
- *German* introductions are Walther (1974), Nöth (1975), Bentele & Bystrina (1978), Trabant (1996), Mersch (Ed. 1998), Sottong & Müller (1998), Schönrich (1999), and Kjörup (2002).
- *French* introduction are: Mounin (1979), Carontini & Réraya (1975), Toussaint (1978), Helbo (1983), and Hénault (1984) Italian introductions are Calabrese & Mucci (1975), Casetti (1977), Caprettini (1980).
- *Dutch, Spanish, and Portuguese* introductions are Zoest (1978), Serrano (1981), Santaella (1983), Teixeira (1990), and Rodrigues (1991). – For earlier introductions in various languages (until 1975) see Sebeok (1976, pp. 164–67).

The survey in preparation by Kull et al. contains introductions to semiotics in more than twenty languages. The approaches distinguished in the following must be understood as having many overlaps; especially, the distinction between the first and the third approach is fuzzy since most “major school” approaches are written by authors who give special emphasis to one of the major schools of semiotics, to which they belong themselves. Furthermore, the premises of the way semiotics is in the focus of the various authors also vary according to their disciplinary background, which may differ as much as philosophy differs from marketing.

The “classics” and “major schools” approach. Authors following this approach give surveys and discussions of the main theories from the history of semiotics and try to orientate students by distinguishing major schools of semiotic thought. Calabrese & Mucci (1975), Deely (1982, 1990), Clarke (1987), and Keller (1995) focus on historical philosophical foundations of the theory of signs. Introductions from the structuralist semiological perspective are Mounin (1970), Guiraud (1971), J. Martinet (1973), Carontini & Peraya (1975), Hawkes (1977), Toussaint (1978), Hénault (1979), Pesot (1979), Caprettini (1980, 1991), Carontini (1983), Magariños de Morentin (1983), Klinkenberg (1996), Trabant (1996), and Volli (2000). Pluralistic introductory surveys are Calabrese & Mucci (1975), Zoest (1978), Hervey (1982), Helbo (1983), Santaella (1983), Tejera (1988), Teixeira Coelho Netto (1990), Pap (1991), Nöth (1995b, 1996), Leeds-Hurwitz (1993), Copley (1998), Sottong & Müller (1998), Johansen & Larsen (2002), Kjörup (2002), and Chandler (2007). An amusing elementary introduction of basic ideas of semiotics written in the form of comics is Copley & Jansz (1997).

The anthology approach. These textbooks introduce semiotics by means of readings from the classics or from seminal texts in current semiotic theory: Blonsky (Ed., 1985), Innis (Ed., 1985), Deely, Williams, & Kruse (Eds., 1986), Danesi & Santeramo (Eds., 1992), Clarke (Ed., 1990), Mersch (Ed., 1998), Perron & Danesi (Eds., 2003), and Bettetini et al. (Eds., 2005). A critical introductory appraisal of the classics of semiotics is Krampen et al. (1981).

The specific school approach. Textbooks of this kind only introduce the teachings of a particular school of semiotics or develop an original school of general semiotics of their own. Among the textbooks of the former kind are several introductions to the semiotics of Peirce (Walther, 1974, Deledalle, 1979, Houser, 1987, Nagl, 1992, Marty & Marty, 1992, Corrington, 1993, Merrell, 1995, 2000, Liszka, 1996, Fisette, 1997, Schönrich, 1999, Santaella, 2000, Campbell, Waal, & Hart, Eds., 2008), introductions to Greimas's discourse semiotics (Hénault, 1979, 1983), or to the English school of social semiotics (Leeuwen, 2005). Introductions of the latter kind are Barthes (1968), Eco (1968, 1976), Ivanov (1976), and Sebeok (1994b).

The applied semiotics approach. Introductory textbooks in applied semiotics dealing with methods of studying of signs and codes of everyday life, such as advertising, the comics or traffic signs are: Mounin (1979), Martinet (1973), Nöth (1975), Toussaint (1978), Berger (1984), Danesi (1994, 1999), Leeds-Hurwitz (1993) and the popular scientific introductions by Solomon (1988) and Hall (2007). The introduction by Crow (2005) was written for graphic designers. Hénault (1983), Sless (1986), Tejera (1988), and Volli (2000) have their focus on literary and text semiotics.

REFERENCES

- Baur, R. S., & Grzybek, P. (1984). Zur Reintegration natürlicher Verhaltensformen in den Fremdsprachenunterricht. *Zielsprache Deutsch*, 15, 24–33.
- Baur, R. S., & Grzybek, P. (1990). Semiotics and second language instruction research. In W. A. Koch (Ed.), *Semiotics in the individual sciences* (pp. 178–213). Bochum: Brockmeyer.
- Barthes, R. (1968). *Elements of semiology*. New York: Hill and Wang.
- Beaujour, M., & Ehrmann, J. (1967). A semiotic approach to culture. *Foreign Language Annals*, 1(2), 152–164.
- Bense, M. (1977). Die semiotische Konzeption der Ästhetik. *Zeitschrift für Literaturwissenschaft und Linguistik*, 27(28), 188–201.
- Bentele, G., & Bystrina, I. (1978). *Semiotik: Grundlagen und Probleme*. Stuttgart: Kohlhammer.
- Berger, A. A. (1984). *Signs in contemporary culture*. New York: Longman.
- Bernard, J. (Ed.). (1983). *Didaktische Umsetzung der Zeichentheorie*. Wien: Österr. Ges. für Semiotik (=Angewandte Semiotik 2).
- Bettetini, G. (1986). La semiotica nella didattica e la didattica della semiotica. In G. F. Arlandi (Ed.), *Incontro con la semiotica* (pp. 65–69). Como: Centro Stampa Comunale.
- Bettetini, G., Calabrese, O., Lorusso, A. M., Violi, P., & Volli, U. (Eds.). (2005). *Semiotica*. Milano: Raffaello Cortina.
- Blonsky, M. (Ed.). (1985). *On signs*. Baltimore: Johns Hopkins.
- Bock, I. (1978). *Kommunikation und Erziehung*. Darmstadt: Wiss. Buchgesellschaft.
- Brault, G. J. (1962). Kinesics and the classroom: Some typical French gestures. *The French Review*, 36, 374–382.
- Brög, H. (1979). Erweiterung der allgemeinen Semiotik und ihre Anwendung auf die Live-Photographie. Kastellau: Henn.
- Brög, H. (Ed.). (1977). *Probleme der Semiotik unter schulischem Aspekt*. Ravensburg: O. Maier.
- Brown, J. W. (1976). Transcoding: A semiotic approach to the problems of transition from language to literature. *Canadian Journal of Research in Semiotics*, 3(1), 51–60.
- Brown, J. W. (1977). Comics in the foreign language classroom: Pedagogical perspectives. *Foreign Language Annals*, 10(1), 18–25.

- Brown, J. W. (1984). Semiotics and foreign language pedagogy. *Degrés*, 38, a1–a20.
- Brown, J. W. (1991). *Semiotics and second language pedagogy*. New York: Lang.
- Busse, K.-P., & Riemenschneider, H. (1979). *Grundlagen semiotischer Ästhetik*. Düsseldorf: Schwann.
- Calabrese, O., & Mucci, E. (1975). *Guida a la semiotica*. Firenze: Sansoni.
- Calbris, G. (1990). *The semiotics of French gestures*. Bloomington, IN: Indiana University Press.
- Campbell, J., Waal, C. de, & Hart, R. (Eds.). (2008). Teaching Peirce to undergraduates. *Transactions of the Charles S. Peirce Society*, 44(2), 189–235.
- Caprettini, G. P. (1980). *Aspetti della semiotica: Principi e storia*. Torino: Einaudi.
- Caprettini, G. P. (1991). *Comunicazione e scienza dei segni*. Torino: CUSL.
- Carontini, E. (1983). *L'action du signe*. Louvain-la-Neuve: Cabray.
- Carontini, E., & Péraya, D. (1975). *Le projet sémiotique*. Paris: Delarge.
- Casetti, F. (1977). *Semiotica*. Milano: Edizione Accademica.
- Chandler, D. (2007). *Semiotics: The basics*. London: Routledge.
- Clarke, D. S., Jr. (1987). *Principles of semiotic*. London: Routledge.
- Clarke, D. S., Jr. (Ed.). (1990). *Sources of semiotic: Readings with commentary from antiquity to the present*. Carbondale, IL: Southern Illinois University Press.
- Chandler, D. (2007). *Semiotics: The basics*. London: Routledge.
- Cobley, P. (1998). *Introducing semiotics*. New York: Totem Books.
- Cobley, P., & Jansz, L. (1997). *Semiotics for beginners*. Cambridge, UK: Icon Books.
- Corder, S. (1966). *The visual element in language teaching*. London: Longman.
- Corrington, R. S. (1993). *An introduction to C. S. Peirce*. Lanham, MD: Rowman & Littlefield.
- Crow, D. (2003). *Visible signs: An introduction to semiotics*. New York: AVA Publishing. German Transl.: (2005). *Zeichen: Eine Einführung in die Semiotik für Grafikdesigner*. München: Stiebner.
- Cunningham, D. J. (1985). Semiosis and learning. In J. Deely (Ed.), *Semiotics 1984* (pp. 427–434). Lanham: University Press of America.
- Cunningham, D. J. (1987a). Semiotics and education. In T. A. Sebeok & J. Umiker-Sebeok (Eds.), *The semiotic web 1986* (pp. 367–378). Berlin: Mouton de Gruyter.
- Cunningham, D. J. (1987b). Outline of an education semiotic. *American Journal of Semiotics*, 5, 201–216.
- Cunningham, D. J. (1987c). Semiotics and education: An instance of the 'new' paradigm. *American Journal of Semiotics*, 5, 195–199.
- Cunningham, D. J. (1992). Beyond educational psychology: Steps toward an educational semiotic. *Educational Psychology Review*, 4(2), 165–194.
- Cunningham, D. J. (2003). Semiotic aspects of pedagogy. In R. Posner, K. Robering, & T. A. Sebeok (Eds.), *Semiotics: A handbook of the sign-theoretical foundations of nature and culture* (Vol. 3, pp. 3296–3309). Berlin: de Gruyter.
- Cunningham, D. J., & Sugioka, H. (1999). Culture, education, and semiotics. *Semiotica*, 123, 201–210.
- Danesi, M. (1991). Teaching semiotics: The textbook issue. *The Semiotic Review of Books*, 2(3), 6–7.
- Danesi, M. (1994). *Messages and meanings: An introduction to semiotics*. Toronto, ON: Canadian Scholars'.
- Danesi, M. (1999). *Of cigarettes, high heels, and other interesting things: An introduction to semiotics*. New York: St. Martin's.
- Danesi, M. (2000). *Semiotics in language education*. Berlin: Mouton de Gruyter.
- Danesi, M. (2002). *Semiotics in education*. Dresden: Thelem.
- Danesi, M. (2007). *The quest for meaning*. Toronto, ON: Toronto University Press.
- Danesi, M., & Santeramo, D. (Eds.). (1992). *Introducing semiotics: An anthology of readings*. Toronto, ON: Canadian Scholars' Press.
- Deely, J. N. (1982). *Introducing semiotic: Its history and doctrine*. Bloomington, IN: Indiana University Press.
- Deely, J. N. (1990). *Basics of semiotics*. Bloomington, IN: Indiana University Press.
- Deely, J. (2009). Semiotics and the academe. In J. Deely (Ed.), *Semiotics 2008* (pp. 476–493). Toronto, ON: Legas.

- Deely, J., Williams, B., & Kruse, F. (Eds.). (1986). *Frontiers in semiotics*. Bloomington, IN: Indiana University Press.
- Deledalle, G. (1979). *Théorie et pratique du signe*. Paris: Payot.
- Dobnig-Jülch, E., et al. (1981). Videoeinsatz bei der Erforschung asymmetrischer Kommunikation. In A. Lange-Seidl (Ed.), *Zeichenkonstitution* (Vol. 2, pp. 159–167). Berlin: de Gruyter.
- Eco, U. (1968). *La struttura assente*. Milano: Bompiani.
- Eco, U. (1976). *A theory of semiotics*. Bloomington, IN: Indiana University Press.
- Ehmer, H. K. (Ed.). (1971). *Visuelle Kommunikation*. Köln: DuMont.
- Ehmer, H. K. (1973). *Kunst: Visuelle Kommunikation, Unterrichtsmodelle*. Steinbach/Giessen: Anabas.
- Eismann, W. (1983). Russische Gesten im Sprachunterricht. In R. D. Baur (Ed.), *Materialien zur Landeskunde der Sowjetunion* (Vol. 1, pp. 93–109). München: Sagner.
- Engels, L. K. (1978). *Pedagogical grammar as applied semiotics*. Paper B 38. Trier: L.A.U.T.
- Fisette, J. (1997). *Introduction to the semiotics of C. S. Peirce* (F. Collins, Trad.). Toronto, ON: Toronto Semiotic Circle.
- Fontanille, J. (Ed.). (1984). *Sémiotique et enseignement du français (=Langue Française, 61)*. Paris: Larousse.
- Germain, C. (1975). Etude sémiologique d'images pédagogiques. *Etudes de linguistique appliquée*, 17, 44–60.
- Golden, J. M. (1989). Reading in the classroom context: A semiotic event. *Semiotica*, 73, 67–84.
- Golden, J. M., & Gerber, A. (1990). A semiotic perspective of text: The picture story book event. *Journal of Reading Behavior*, 22(3), 203–219.
- Green, J. R. (1968). *A gesture inventory for the teaching of Spanish*. Philadelphia: Chilton.
- Greimas, A. J. (1979). Pour une sémiotique didactique. *Bulletin du Groupe de recherches sémiolinguistiques*, 7, 3–8.
- Greimas, A. J. (1984). Entretien réalisé par J. Fontanille. *Langue française*, 61, 121–128.
- Grenier-Francœur, M. (1989). La sémosis didactique: Savoir, savoir faire, savoir-être. In G. Deledalle (Ed.), *Semiotics and pragmatics* (pp. 241–253). Amsterdam: Benjamins.
- Guiraud, P. (1971–1973). *La sémiologie*. Paris: Presses Universitaires de France.
- Hammad, M. (1979). Espaces didactiques. *Bulletin du Groupe de Recherches sémiolinguistiques*, 7, 30–32.
- Hafner, H., & Schwarz, A. (Eds.). (1991). *Semiotik und Didaktik*. Frankfurt/Main: Lang.
- Hall, S. (2007). *This means that*. London: Laurence King.
- Harrison, P. A. (1983). *Behaving Brazilian: A comparison of Brazilian and North American social behavior*. Rowley, MA: Newbury House.
- Hawkes, T. (1977). *Structuralism and semiotics*. London: Methuen.
- Hayes, A. S. (1964). Paralinguistics and kinesics: Pedagogical perspectives. In T. A. Sebeok, A. S. Hayes, & M.-C. Bateson (Eds.), *Approaches to semiotics* (pp. 145–172). The Hague, The Netherlands: Mouton.
- Helbo, A. (1983). *Sémiologie des messages sociaux: Du texte à l'image*. Paris: Edilig.
- Hénault, A. (1979). *Les enjeux de la sémiotique*. Paris: Presses University de France.
- Hénault, A. (1983). *Narratologie, sémiotique générale*. Paris: Presses University de France.
- Hervey, S. G. J. (1982). *Semiotic perspectives*. London: Allen & Unwin.
- Hoffmann, M. H. G. (2000). Lernen als Zeichenprozess. *Zeitschrift für Semiotik*, 22(1).
- Homberger, D. (1972). Darstellung einer allgemeinen Zeichentheorie im Hinblick auf Probleme des Literaturunterrichts. *Der Deutschunterricht*, 24, 97–116.
- Houser, N. (1987). Toward a Peircean semiotic theory of learning. *American Journal of Semiotics*, 5, 251–274.
- Hübler, A. (1989). Nonverbal interaction. In R. Dirven, et al. (Eds.), *A user's grammar of English* (pp. 837–902). Frankfurt/Main: Lang.
- Illera, J. L. R. (1990). The pedagogic subject. *Semiotica*, 81, 227–236.
- Imbert, P. (1980). Multidisciplinarity, semiotics, and pedagogy. *Ars Semeiotica*, 3, 275–281.
- Innis, R. E. (Ed.). (1985). *Semiotics: An introductory anthology*. Bloomington, IN: Indiana University Press.

- Ivanov, V. V. (1976). Einführung in allgemeine Probleme der Semiotik. Tübingen: Narr, 1985.
- Jacquinet, G. (1977). *Image et pédagogie*. Paris: Presses University de France.
- Jansen, G. (1978). Gegenstandsbezogene Handlung als Zeichenprozess. Ahrensburg: Czwalina.
- Johansen, J. D., & Larsen, S. E. (2002). *Signs in use: An introduction to semiotics*. London: Routledge.
- Johnson, S. (1979). *Nonverbal communication in the teaching of foreign languages*. Bloomington, IN: Indiana University Ph.D.
- Kaye, A. S. (1990). Remarks on educational semiotics. *Semiotica*, 79, 155–165.
- Keller, O., & Hafner, H. (1986). *Arbeitsbuch zur Textanalyse*. München: Fink.
- Keller, R. (1995). Zeichentheorie: Zu einer Theorie semiotischen Wissens. Tübingen: Francke.
- Kerner, G., & Duroy, R. (1977). *Bildsprache 1*. München: Don Bosco.
- Kiefer, K. H. (1982). *Ästhetik – Semiotik – Didaktik*. Tübingen: Narr.
- Kjørup, S. (2002). *Semiotik*. Roskilde: Roskilde universitetsforlag. German Transl. (2009). *Semiotik*. München: Fink.
- Kledzik, S. M. (1985). Das exemplarische Prinzip und seine semiotische Basis. *Zeitschrift für Semiotik*, 7, 305–318.
- Kleinschmidt, G. (1973). Welt durch Zeichen. *Praxis Deutsch*, 1(73), 17–20.
- Klinkenberg, J.-M. (1996). *Précis de sémiotique générale*. Bruxelles: De Boeck.
- Koch, W. A. (1987). First draft of a curriculum in semiotics. In A. Eschbach & W. A. Koch (Eds.), *A plea for cultural semiotics* (pp. 146–163). Bochum: Brockmeyer.
- Köhring, K. H., & Schwerdtfeger, I. C. (1976). Landeskunde im Fremdsprachenunterricht: Eine Neubegründung unter semiotischem Aspekt. *Linguistik und Didaktik*, 7(25), 55–84.
- Kok-Escalle, M.-C. (1988). Instaurer une culture par l'enseignement de l'histoire: Contribution à une sémiotique de la culture. Frankfurt/Main: Lang.
- Komar, G. (1985). Ansatz zu einer zeichentheoretisch orientierten Wirtschaftsdidaktik. München: Minerva.
- Kowalski, K. (1975). *Die Wirkung visueller Zeichen*. Stuttgart: Klett.
- Krampen, M., et al. (Eds.). (1981). *Die Welt als Zeichen: Klassiker der modernen Semiotik*. Berlin: Severin & Siedler. Trad. (1987). *Classics of semiotics*. New York: Plenum.
- Landowski, E. (1980). *Le devoir de français*. Paris: Pédagogie moderne.
- Leeds-Hurwitz, W. (1993). *Semiotics and communication: Signs, codes, cultures*. Hillsdale, NJ: Erlbaum.
- Lemke, J. L. (1987). Social semiotics and science education. *American Journal of Semiotics*, 5, 217–232.
- Lemke, J. L. (1989). Social semiotics: A new model for literacy education. In D. Bloome (Ed.), *Classroom and literacy* (pp. 289–309). Norwood, NJ: Ablex.
- Leeuwen, T. van (2005). Introducing social semiotics: An introductory textbook. London: Routledge.
- Lichtscheidl, E. (1990). Ein Beitrag zur Semiotik und Didaktik. *Semiotische Berichte*, 14.1.2, 55–65.
- Lidov, D. (1999). *Elements of semiotics*. New York: St. Martin's Press.
- Lier, L. van. (2004). The ecology and semiotics of language learning: A sociocultural perspective. Boston: Kluwer.
- Liszka, J. J. (1996). *A general introduction to the semeiotic of C. S. Peirce*. Bloomington, IN: Indiana University Press.
- Loof, D. de (1976). Some American and German customs compared. *Language et l'homme*, 30, 37–48.
- Loof, D. de (1981). A comparison of selected German and American emblems. *Kodikas/Code*, 3, 99–118.
- Magariños de Morentin, J. A. (1983). El signo: Las fuentes teóricas de la semiología: Saussure, Peirce, Morris. Buenos Aires: Hachette.
- Mariani Ciampicacigli, F. (1980). *Semiotica della letteratura*. Milano: F. Angeli.
- Mariani Ciampicacigli, F. (1985). *Guida a una semiotica per la scuola*. Roma: Riuniti.
- Mariet, F. (1978). Pour une pédagogie de la sémiologie graphique. *Le Français dans le monde*, 137, 32–37.
- Martin, M. (1982). *Sémiologie de l'image et pédagogie*. Paris: Presses Universitaires de France.
- Martinet, J. (1973). *Clefs pour la sémiologie*. Paris: Seghers.
- Marty, C., & Marty, R. (1992). *99 réponses sur la sémiotique*. Montpellier: CRDP.
- Maurand, G. (1984). Pratiques sémio-linguistiques de l'école élémentaire. *Langue Française*, 61, 55–72.

- Melenk, H. (1980). Semiotik als Brücke: Der Beitrag der angewandten Semiotik zur vergleichenden Landeskunde. *Jahrbuch Deutsch als Fremdsprache*, 6, 133–148.
- Merrell, F. (1995). *Peirce's semiotics now: A primer*. Toronto, ON: Canadian Scholars' Press.
- Merrell, F. (2000). Signs for everybody, or chaos quandaries and communication. New York: Legas.
- Mersch, D. (Ed.). (1998). Zeichen über Zeichen: Texte zur Semiotik von Peirce bis Eco und Derrida. München: dtv.
- Metz, C. (1970). Images et pédagogie. *Communications*, 15, 162–168.
- Morain, G. (1976). Visual literacy: Reading signs and designs in the foreign culture. *Foreign Language Annals*, 3, 210–216.
- Morris, C. W. (1946). *Signs, language, and behavior*. New York: Braziller.
- Mounin, G. (1970). *Introduction à la sémiologie*. Paris: Minuit.
- Nagl, L. (1992). *Charles S. Peirce*. Frankfurt/Main: Campus.
- Nasr, R. T. (1984). Semiotics and the teaching of Arabic as a foreign language. *Degrés*, 38, e1–e6.
- Neuner, G. (Ed.). (1979). *Pragmatische Didaktik des Englischunterrichts*. Paderborn: Schöningh.
- Nöth, W. (1975). Semiotik. Eine Einführung mit Beispielen für Reklameanalysen. Tübingen: Niemeyer.
- Nöth, W. (1990a). *Handbook of semiotics*. Bloomington, IN: Indiana University Press.
- Nöth, W. (1990b). Thought signs on semiotics as a (trans)discipline. *Semiotica*, 80, 311–319.
- Nöth, W. (1994). La sémiotique de l'enseignement et l'enseignement de la sémiotique. *Degrés*, 77, b1–b22.
- Nöth, W. (1995a). Nonverbales Kommunikationsverhalten. In R. Ahrens, W.-D. Bald, & W. Hüllen (Eds.), *Handbuch Englisch als Fremdsprache* (pp. 205–207). Berlin: E. Schmidt.
- Nöth, W. (1995b). *Panorama da semiótica de Platão a Peirce*. São Paulo: ANNABLUME.
- Nöth, W. (1996). *A semiótica no século XX*. São Paulo: ANNABLUME.
- Nöth, W. (1998). Ecossemiotics. *Σημειωτική: Sign Systems Studies*, 26, 332–343.
- Nöth, W. (2000). *Handbuch der Semiotik* (2nd ed.). Stuttgart: Metzler.
- Nöth, W. (2010). Zeichen und Semiose. In O. Braun & U. Lüdtke (Eds.), *Zyklus des Handbuchs der Behindertenpädagogik, Bd. 8: Sprache und Kommunikation*. Stuttgart: Kohlhammer.
- Pap, L. (1991). *Semiotics: An integrative survey*. Toronto: Semiotic Circle.
- Peirce, C. S. (1931–1958). *Collected papers* (Vols. 1–6, C. Hartshorne & P. Weiss, Eds., Vols. 7–8, A. W. Burks, Ed.). Cambridge, MA: Harvard University Press. (Quoted as CP.)
- Peirce, C. S. (1958). *Values in a universe of chance* (P. P. Wiener, Ed.). Stanford, CA: Stanford Univ. Press.
- Peirce, C. S. (1998). *The essential Peirce* (Vol. 2, Peirce Edition Project, Ed.). Bloomington, IN: Indiana University Press. (Quoted as EP 2)
- Pelc, J. (1992). Teaching semiotics and its institutionalization. In A. Balat & J. Deledalle-Rhodes (Eds.), *Signs of humanity* (pp. 1749–1760). Berlin: Mouton de Gruyter.
- Perron, P., & Danesi, M. (Eds.). (2003). *Classic readings in semiotics: For introductory courses*. Ottawa: Legas.
- Pesot, J. (1979). Silence, on parle: Introduction à la sémiotique. Montreal: Guérin.
- Petrilli, S., & Ponzio, A. (2005). *Semiotics unbounded*. Toronto: University of Toronto Press.
- Pfote, D. (Ed.). (1974). *Comics im ästhetischen Unterricht*. Frankfurt/Main: Athenäum.
- Pointer, H. (1990). Schulische Textarbeit und visuelle Zeichensysteme: Studie zu einem fächerübergreifenden, semiotisch orientierten Text- und Literaturunterricht. Frankfurt/Main: Lang.
- Ponzio, A. (2002). Sebeok's semiotics and education. *Semiotica*, 138, 299–311.
- Posner, R. (1994). Les études de troisième cycle en sémiotique à l'Université Technique de Berlin. *Degrés*, 22(77), f1–f15.
- Poupart, R. (1990). Sémiologie et pédagogie. S: *European Journal for Semiotic Studies*, 2(3), 575–588.
- Pütz, H.-H. (1973). Das Zeichensystem Sprache – Zur Behandlung zeichentheoretischer Fragestellungen auf der Unterstufe. *Linguistik und Didaktik*, 4, 83–98.
- Rector, M., & Perry, D. (1984). Toward a semiotics of education in foreign language teaching. *Degrés*, 12(38), c1–c12.

- Rector, M., & Trinta, A. R. (1985). *Comunicação não-verbal. A gestualidade brasileira*. Petrópolis: Vozes.
- Reinert, G.-B., & Thiele, J. (Eds.). (1977). *Nonverbale pädagogische Kommunikation*. München: Ehrenwirth.
- Rivenc, P. (1973). Vers une approche sémiotique du 'discours audio-visuel' dans les méthodes d'apprentissage linguistique. *Journal de Psychologie normale et pathologique*, 1–2, 189–207.
- Reimann, D. (2000). Französisch durch Gesten. *Französisch heute*, 1, 68–82.
- Réthoré, J. (1978). Semiotik und Pädagogik der Fremdsprachen. In A. Semiotik (Ed.), *Die Einheit der semiotischen Dimensionen* (pp. 251–255). Tübingen: Narr.
- Robin, C. (1974). Travaux dirigés et bande dessinés: Manuel d'initiation à la bande dessinée et d'apprentissage du français. Paris: SUDEL.
- Robra, K. (1993). Sprache und Fremdsprachenunterricht: Semantik – Pragmatik – Semiotik. *Kodikas/Code*, 16, 373–392.
- Rodrigues, A. D. (1991). *Introdução à semiótica*. Lisboa: Presença.
- Rölller, D. (1981). Definitionsversuche einer semiotischen Didaktik. *Linguistica Biblica*, 49, 27–37.
- Rölller, D. (Ed.). (1998). Religionsunterricht als Zeichenbildung: Studien zu Semiosen in Schule und städtischem Kontext. Frankfurt/Main: Lang.
- Rossi, R. (1987). Semiotics in the classroom. *American Journal of Semiotics*, 5, 303–313.
- Saitz, R. L., & Cervenka, E. J. (1972). *Handbook of gestures: Colombia and the United States*. The Hague: Mouton.
- Santaella, L. (1983). *O que é semiótica*. São Paulo: Brasiliense.
- Santaella, L. (2000). *A teoria geral dos signos* (2a ed.). São Paulo: Editora Pionera.
- Sauerbier, S. D. (1979). Spiel, Kunst und Lehre. *Kodikas/Code*, 1, 349–363.
- Schanze, H. (1974). Medienkunde für Literaturwissenschaftler. München: Fink.
- Schofer, H. (1977). Nichtverbale Kommunikation im Fremdsprachenunterricht. In G.-B. Reinert & J. Thiele (Eds.), *Nonverbale pädagogische Kommunikation* (pp. 22–34). München: Ehrenwirth.
- Schönrich, G. (1999). *Semiotik zur Einführung*. Hamburg: Junius.
- Schuh, H.-M. (1977). Semiotische Analyse literarischer Texte. In K. Schröder & F. Weller (Eds.), *Literatur im Fremdsprachenunterricht* (pp. 20–39). Frankfurt/Main: Diesterweg.
- Sebeok, T. A. (1976–1985). *Contributions to the doctrine of signs*. Lanham, MD: University Press of America.
- Sebeok, T. A. (1979). *The sign and its masters*. Austin, TX: University of Texas Press.
- Sebeok, T. A. (1994a). Teaching semiotics in the United States. *Degrés*, 22(77), e1–e14.
- Sebeok, T. A. (1994b). *Signs: An introduction to semiotics*. Toronto: University Press.
- Sebeok, T. A., & Umiker-Sebeok, J. (Eds.). (1986). *The semiotic sphere*. New York: Plenum.
- Sebeok, T. A., & Umiker-Sebeok, J. (Eds.). (1987). *The semiotic web 1986*. Berlin: Mouton de Gruyter.
- Sebeok, T. A., Lamb, S. M., & Regan, J. O. (1988). *Semiotics in education: A dialogue (=Issues of Communication 10)*. Claremont, CA: Claremont Graduate School.
- Sless, D. (1986). *In search of semiotics*. London: Croom Helm.
- Semetsky, I. (Ed.). (2004). Deleuze and education, special issue. *Educational Philosophy and Theory*, 36(3).
- Semetsky, I. (Ed.). (2005). Peirce and education: An introduction. *Educational Philosophy and Theory*, 37(2), 153–156.
- Semetsky, I. (Ed.). (2007a). Semiotics and education. *Studies in Philosophy and Education*, 26(3).
- Semetsky, I. (2007b). Towards a semiotic theory of learning – Deleuze's philosophy and educational experience. *Semiotica*, 164, 197–214.
- Serrano, S. (1981). La semiótica: Un introducción a la teoría de los signos. Barcelona: Montesinos.
- Shank, G. (1987). Abductive strategies in educational research. *American Journal of Semiotics*, 5(2), 275–290.
- Smith, H. A. (1984). State of the art of nonverbal behavior in teaching. In A. Wolfgang (Ed.), *Nonverbal behavior* (pp. 171–202). Lewiston, NY: Hogrefe.

- Smith, H. A. (2007). *Teaching adolescents: Educational Psychology as a science of signs*. Toronto: Univ. of Toronto Press.
- Sohet, P. (1994). Sémiologie et pédagogie du discours publicitaire. *Degrés*, 22(77), g1–g23.
- Solomon, J. (1988). *The signs of our time*. New York: Harper & Row.
- Sottong, H. J., & Müller, M. (1998). *Zwischen Sender und Empfänger: Eine Einführung in die Semiotik der Kommunikationsgesellschaft*. Berlin: Erich Schmidt.
- Spillner, B. (1980). Über die Schwierigkeiten der semiotischen Textanalyse. *Die Neueren Sprachen*, 79, 619–630.
- Spinner, K. H. (1977). Semiotische Grundlegung des Literaturunterrichts. In K. H. Spinner (Ed.), *Zeichen, Text, Sinn – Zur Semiotik des literarischen Verstehens* (pp. 125–164). Göttingen: Vandenhoeck.
- Stock, A. (1978). *Textentfaltungen – Semiotische Experimente mit einer biblischen Geschichte*. Düsseldorf: Patmos.
- Suhor, C. (1984). Towards a semiotics-based curriculum. *Journal of Curriculum Studies*, 16, 247–257.
- Teixeira Coelho Netto, J. (1990). *Semiótica, informação e comunicação*. São Paulo: Perspectiva.
- Tejera, V. (1988). *Semiotics from Peirce to Barthes*. Leiden: Brill.
- Thomas, D. W. (1984). Project semiotics and the schools. In T. Borbé (Ed.), *Semiotics unfolding* (Vol. 1, pp. 631–638). Berlin: Mouton.
- Thomas, D. W. (1987). Semiotics: The pattern which connects. *American Journal of Semiotics*, 5, 291–302.
- Thomas, D. W. (Ed.). (1980–1983). *Semiotics 1–4* (Vol. 5). Lexington, MA: Gin Press.
- Toussaint, B. (1978). *Qu'est-ce que la sémiologie*. Toulouse: Privat.
- Trabant, J. (1996). *Elemente der Semiotik*. Tübingen: Francke.
- Tucker, S. A., & Dempsey, J. V. (1991). A semiotic model for program evaluation. *American Journal of Semiotics*, 8(4), 73–103.
- Ventola, E. (1984). Orientation to social semiotics in foreign language teaching. *Applied Linguistics*, 5(3), 275–286.
- Vogel, H. (1975). Comics im Deutschunterricht. *Der Deutschunterricht*, 27, 6–33.
- Volli, U. (2000). *Manuale di semiotica*. Roma-Bari: Laterza. German Trans. *Semiotik. Eine Einführung in ihre Grundbegriffe*. Tübingen: Francke.
- Walther, E. (1974). *Allgemeine Zeichenlehre Einführung in die Grundlagen der Semiotik*. Stuttgart: Deutsche Verlags-Anstalt.
- Ward, L., & Raffler-Engel, W. von. (1980). The impact of nonverbal behavior on foreign language teaching. In W. von Raffler-Engel (Ed.), *Aspects of nonverbal communication* (pp. 287–304). Lisse: Swets.
- Wichelhaus, B. (1979). *Zeichentheorie und Bildsprache mit Lehrplananalysen und Unterrichtsmodellen*. Königstein: Forum Academicum.
- Wunderlich, D. (1969). Unterrichten als Dialog. *Sprache im technischen Zeitalter*, 32, 263–286.
- Wylie, L. (1977). *Beaux gestes*. New York: Dutton.
- Zarcadoolas, C. (1983). *How to do things with linguistics, semiotics, speech acts, and phenomenology*. Ph. D. Thesis, Brown University, University Microfilms Int., Ann Arbor.
- Zellmer, S. (1979). *Pädagogische Semiotik in der Mathematik-Didaktik*. Baden-Baden: Agis.
- Zellmer, S. (1980). Mögliche Bedeutung der Semiotik für Wissenschaftstheorie und Pädagogik. *Semiosis*, 17–18(1–2), 178–184.
- Zoest, A. J. A. van (1978). *Semiotiek*. Baam: Ambo.

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2. SEMIOSIS AND THE COLLAPSE OF MIND-BODY DUALISM

Implications for Education

INTRODUCTION

A fully semiotic perspective – that is, one that regards all living as semiotic engagement, not merely the conscious communicative practices of human beings – depends on a rejection of Cartesian mind-body substance dualism (Dewey, 1925) reinforced by a problematisation of the sign-signal distinction (Stables, 2005, 2008). This chapter draws on both biosemiotic and pansemiotic explorations in the semiotics literature (e.g. Maran, 2006) and on both Peirce and Saussure as seminal figures for contemporary semiotics. In other words, a view of living as semiosis is consistent with a non-reductive naturalism and with a broadly Darwinian view of human activity (including symbolic interchange) as adaptation of the human organism. Thus all of life is, in a broad sense, educative, and learning is ubiquitous and not a special property of formal education. Furthermore, several of the key conceptual distinctions that have driven the debate about formal education are necessarily problematised from this strongly anti-dualist perspective: the absence of an absolute categorical distinction between mind and body implies not merely the absence of such a clear-cut distinction between sign (including symbol) and signal, and therefore between language and mere communication, but also between reason and instinct, thought and feeling, morality and conditioning and attitude and behaviour. Educational theory has tended to valorize the former terms (in a broadly cognitivist tradition) over the latter (as manifesting crude behaviourism), while social constructionists have challenged aspects of this set of dichotomies through social conceptions of mind (Vygotsky, 1978, and his interpreters) but have not challenged its narrow anthropocentrism or taken full account of the uniqueness of individual response. A fully semiotic theory of education must therefore be radically different from its competitors, including the neo-Vygotskian. This chapter will sketch out some of the elements of such a theory, focusing, in turn, on learning theory, teaching and the curriculum, and educational policy.

WHAT IS A FULLY SEMIOTIC PERSPECTIVE?

A fully semiotic perspective on education is one that regards everything we do as response to signs and signals. It entails more than the application of semiotics, as a commonly practised discipline, to processes and practices of education in the

following ways. It does not draw a clear demarcating line between “signs”, as conscious elements of human communication, such as words or visual symbols, and “signals”, as unconscious, often non-human prompts to action that might be regarded as instinctive.

Most semiotics can be termed “anthroposemiotics”. (See Maran, 2006 for a clear summary of this and related positions.) That is to say: firstly, there is an assumption that only humans are, and can be, sign users, just as only human communication can properly be understood as “language”; secondly, and by implication, sign use is an aspect of mind (as opposed to ‘body’), and only human beings have minds. Alternative views have, however, been under development for some time now. Biosemiotics, for example (as in the work of Thomas Sebeok, 2000), understands all life in semiotic terms, so that, for example, DNA can be regarded as a series of codes that determine the actions of cells: the discovery of stem-cells, that can develop into any type of body cell depending on the contexts in which they are placed, offers an interesting example here as the meaning of a human utterance, too, or of a single word or other sign, similarly depends on its context within a broader process of communication. Zoosemiotics (see also Sebeok) and ecosemiotics (Maran, 2006) offer related models to explain the actions and interactions of non-human living things. Pansemiotics goes further still, arguing that everything, living or otherwise, can be explained in semiotic terms. Modern pansemiotic accounts are heavily influenced by the work of C.S. Peirce, which will be discussed below.

However, while anthroposemiotics might not be the only philosophically defensible position, there is a *prima facie* argument that it should offer enough to account for education. Surely all educational practice is both strictly human and about the operation of the human mind? On reflection, while the first may arguably remain undoubtedly the case (we do not commonly or easily conceive of “educating” animals – though we do “train” them), the second is not, at least insofar as “mind” is taken to mean “conscious rationality”, for physical education is concerned largely with “training the body” while other forms of education also involve elements of non-conscious physical response, including all forms of education in the arts or in any other sphere that demands emotional response, for emotions, by definition, are pre-rational. Thus many educators have attempted to move a way from a view of students as disembodied rationalities. John Dewey, for example, argued the case compellingly for regarding human beings as learning “conatively” rather than “cognitively” or “behaviourally” (Dewey, 1896, 1897, 1902, 1916; not directly quoted). That is, Dewey attempted to develop an educational philosophy grounded in the Darwinian assumption that humans are environmentally dependent organisms rather than (super)natural minds with bodies attached (on the cognitive account) or predictable mechanical reactors to rewards and punishments (on the behaviourist). Indeed, so committed was Dewey to a rejection of the view that mind and body should be treated as separate that he used the term “body-mind” (Dewey, 1925) to stress this inseparability.

Dewey has done more than any other distinguished philosopher of education to undermine Descartes’ rationalist assumption that mind and body are substantially different, two different kinds of entity that co-exist. However, as I have argued more

fully elsewhere (Stables, 2008a), Dewey did not take the further step of questioning the distinction between language and the operation of signs (as expressions of mind) and instinctive utterance operating as the interchange of signals (as expressions of body and the mindless world of non-human animals). Yet this is a logical next step to make, and if it is made, certain inferences can be drawn for education that will be elaborated below. A fully semiotic perspective, therefore, goes one step further than Dewey in problematising the distinction between sign and signal as emblematic of the distinction between mind and body on a dualist account. In so doing, it draws on biosemiotic and pansemiotic traditions, since problematising the distinction between sign and signal inevitably calls into question assumptions about the distinctive nature of human language, rationality and consciousness. This has certain implications for education that will be explained in subsequent sections; at the core of these rests the problem of the unpredictability of outcomes.

One might ask why educational theory has been so slow to embrace such a fully semiotic position, particularly given the volume of literature on education as communicative, discursive or sociocultural practice (as in the work of Jerome Bruner [1997], Gordon Wells [2008], Neil Mercer [2000] and many others including those of the post-Vygotskian school. After all, it has long been recognized in this literature that mind is not the property of autonomous rational souls but is rather a function, in some sense, of collective social and cultural practice. However, this literature falls short of the explicit claim that “living and learning (is) semiotic engagement” (Stables, 2005: title and elsewhere) and it remains firmly anthropocentric and thus raises few questions about either the increasingly salient question of the right relationships between the human and the non-human world (Bonnett, 2004) or the growth of the human as environmentally dependent and adaptive organism. One explanation for this can be found in an examination of the roots of modern semiotics, as there are in effect two semiotic traditions. The first is Peircean and stresses the ubiquity of sign activity (or *semiosis*) and utilises a triadic conception of the sign; the second is Saussurean and is grounded in linguistics and an initially dyadic, and subsequently unquantifiable conception of the sign.

Peirce was fiercely anti-anthropocentric. Indeed, as a lifelong philosopher of science, who embraced an interest in “rhetoric” only late in life and very much on his own terms (Stables, 2010), his interests were in how human beings make sense of the world (through processes of induction, deduction and abduction: e.g. Peirce, 1958) and, relatedly, how the whole of the universe can be understood as, in effect, making its own sense in similar terms through the action of “interpretant” signs. Peirce defined the aim of speculative rhetoric (or “methodeutic”) as “the science of the essential conditions under which a sign may determine an interpretant sign of itself and of whatever it signifies, or may, as a sign, bring about a physical result” (Peirce, 1904, p. 326). These are aspects of the relation between the meaning of the sign and its source. It is important to note that everything that happens in the world, according to Peirce, can be understood in terms of a triadic account: Representamen, Object and Interpretant. John Deely (1990) offers the example of a thermometer to illustrate this. On Peirce’s account, the signifier (or Representamen) thermometer relates to an Object (air) in a dyadic relationship but this relationship lacks meaning

without the sense that is made of it. Human meaning-making happens this way, but it is important to note, according to Peirce, that the action of the thermometer measuring the air temperature is not merely a human construction, albeit the thermometer is such a construction: the air really does have a temperature that can be measured. In fact, most of the semiotic activity in the world requires no human intervention whatever though it is subject to interpretation. Furthermore, the Interpretant may not have any obvious physical reality (as in the meaning that is drawn from reading the thermometer) but might yet have observable physical consequences (such as closing the window or switching on the air conditioning). Put simply, all things are what they come to mean, and this semiotic process is ubiquitous and inevitable, with all forms of human activity forming part of it. Exactly how far Peirce saw non-human agents as capable of meaning-making is unclear, but even on the most humanistic reading, his account fully integrates human interpretation into the ongoing business of the universe.

Whatever criticism one might choose to make of Peirce in retrospect (and many criticisms can be made), it is difficult to deny that he, uniquely, offers a rigorous philosophical basis for the development of semiotics. This is not similarly true of the work of Ferdinand de Saussure, though the latter's influence on modern semiotics is just as great.

While Peirce's conception of the sign is triadic (Sign/Representamen – Object – Interpretant), Saussure's is dyadic (Signifier – Signified). Saussure (1983 – first published 1917) grounded his theory in linguistic, not philosophical concerns, specifically in a concern to develop a theory of language that went beyond simple representation (as if a word simply stood for a thing in the world beyond our perceptions; for a general introduction to Saussure, see Culler, 1976). He thus devised a scheme whereby a language is construed as a socially constructed system of signs, in which a Signifier (e.g. dog/ chien/ hund) evokes a Signified (what we think of when we hear the word “dog/ chien/ hund”) and in which, furthermore, the meaning of a linguistic item is dependent on the context of its use (so “dog” can evoke rather different meanings according to its place within a particular utterance). Now, although not explicitly a philosophical claim, this move has had significant philosophical consequences for the so-called Continental tradition. Indeed, Saussure's influence can be seen throughout the humanities and social sciences, firstly through the movement known as Structuralism, and then in Poststructuralism. The Structuralist claim is broadly that everything in the cultural world can be understood in the way a language can be understood. Saussure distinguished between *Langue* (the underlying grammar of a language) and *Parole* (its ever-varied use in actual utterances). In similar vein, the structuralists believed that, for example, media texts could be analysed as myths, or works of literature (Barthes, 1970), or that anthropology could approach issues such as gift-exchange and totem-use by trying to discover the “codes” that underpinned and drove such practices in different parts of the world (Mauss, 2001; Levi-Strauss, 2001). Post-structuralism, which has philosophical implications as challenging as those of Peirce, if not more so, simply denies that there is any underlying code or “*langue*”. Rather, language is a “freeplay” of signifiers (Derrida, 1978, p. 25). Furthermore,

according to poststructuralist philosophers of difference including Derrida (1978), Deleuze and Guattari (1994) and Lyotard (1988), identity is no more or less than a symptom of relationality, such that there is no essence, absolute presence or fixed meaning. Thus the unit of meaning is actually and always a unit of difference (Lyotard refers to the “differend”, Derrida to “Différance”). This is effectively a metaphysics of absence, and it is philosophically diametrically opposed to Peirce, who referred to his ‘Pragmaticism’ as ‘prope-positivism’ (Peirce, 1958, p. 192; Editor’s note: Deleuze, however, is “Peircean” in his return to metaphysics, albeit virtual). On a poststructuralist account, the validity of Peirce’s distinctions between Sign/Representamen, Object and Interpretant is called into question, and therefore so must be the other Peircean concepts that flow from them, such as that of Firstness, Secondness and Thirdness of the sign, or even between Icon, Index and Symbol.

Opposed though they are, I argue that a fully semiotic perspective must take from both the Peircean and Saussurean traditions. (See Stables, 2010 for a fuller justification.) To be “fully semiotic”, semiotics must acknowledge that its scope cannot simply be defined by human language and other conscious sign use, such as visual imagery, in recognizable “texts” including those of film or art. Rather, the boundaries of what constitutes signs are, at best, fuzzy and at worst, totally uncallable. Certainly (following Peirce), it is possible to understand all living, and perhaps all natural action, as semiotic. On the other hand, Continental semiotics leads us to abandon faith in the ever-more-knowable reality beyond our human senses and perceptions that Peirce believed in so strongly. Signs, though ubiquitous, do not have fixed meanings or identities, and the kind of progress that Peirce believed that science and human rationality would inevitably achieve must be reconsidered in the more challenging climate of poststructuralism. Finally, there is no justification for running away from the insights from either of these traditions simply on the grounds that educators might find them unsettling or even unhelpful: challenging insights are, *ipso facto*, challenging!

In summary, a fully semiotic tradition adopts the strongly anti-substance dualist position taken previously by Dewey, but takes this position a stage further by challenging the sign-signal distinction, drawing on both American and Continental philosophical and semiotic traditions. By definition, this position is critical of the categorical separation of mind and body. By extension, other dualisms that have been central to the development of thinking about education must also be challenged, specifically those between language and mere communication, between reason and instinct, between thought and feeling, between morality and conditioning and between attitude and mere behaviour. It is in the spirit of challenging such dualisms that the following sections will consider the implications of a fully semiotic approach for, in turn, learning theory, teaching and the curriculum, and educational policy.

FROM LEARNING TO TEACHING TO CURRICULUM

In the remainder of this chapter, I shall flesh out some of the implications of a fully semiotic approach from the inside out: that is to say, beginning with consideration of how individuals learn, moving on to the role of teachers with respect to this,

then considering the curriculum before finally moving onto the broadest context, that of general educational policy. One theme runs through all these sets of considerations, however: that of the variability and unpredictability of outcomes. Insofar as any semiotic perspective is an extension of a linguistic or literary perspective onto a broader canvas, it is valid to regard all our living as effectively reading the writing the world: that is, responding to sign(al)s (Stables, 2005) in the environment through various actions which themselves are sign(al)s. When we read a text, its meaning for us is always dependent on two considerations: firstly, how we have tended to respond to the words, phrases and similar utterances in the past (to be termed here Conditioning), and the immediate context for their reception (Context). An alternative formulation of the same point is to propose that the context of reception is all-important but that it has two dimensions: diachronic (Conditioning) and synchronic (present Context). Extending this to all activity entails a recognition that the meaning we make of any situation is dependent on an interaction between Conditioning and (present) Context that can never be fully accounted for: in part because time does not stop to allow for analysis of every situation, and in part because every individual experiences a situation from a unique vantage point, both in terms of physical location and personal orientation. Philosophically this raises interesting questions about personal freedom and determination which have important political consequences that will be considered in the final section. At a practical educational level, it means that no individual (including a teacher) can ever be fully certain of how another individual (including a student) has responded to a particular situation. For example, to take a quite feasible case, three students sitting side by side hear a teacher tell them what they will do next: the first responds to this as an exciting challenge, the second as a threat, and the third is not listening. The first student may be highly successful and motivated, or just self-deluded; the second may lack confidence in the subject, or merely dislike the teacher; the third may be habitually disengaged or have been stung by an insect just before the teacher spoke. In other words, Conditioning and Context determine response and, furthermore, how these will play out in any given situation cannot be fully known. Most educational theorists have tended to downplay this inevitable unpredictability including, I have argued, Dewey (Stables, 2008a). Indeed, anyone who assumes that the adoption of any educational policy, whether at the level of teaching technique, curriculum offering or school provision, will have a uniform outcome, is misled.

If all living is semiotic engagement, then learning must be an aspect of living, and learning must also be semiotic engagement. There are no grounds for assuming that learning is a distinctive form of life (to adopt a phrase from Wittgenstein, 1967); rather, certain examples of human interactions with sign(al)s are construed as learning. I argue that, in effect, learning does not “happen” but is rather determined to have happened, just as is the case with decisions: we tend to say, “I have made a decision” or “I learnt something today” (Stables, 2005). Learning is, then, a judgment. Not only is classical learning theory misleading, with its strong legacy of mind-body dualism reflected in the distinction between cognitive and behaviourist approaches: learning theory itself may be a chimera, an imagined entity simultaneously reified and mystified by educationalists.

In objection to this, neuroscientists may argue that the brain does indeed make new connections that result in revised patterns of behaviour. Indeed so, but this can be explained as change or adaptation (in the Darwinian sense) and does not require a separate category of learning. Furthermore, there is no doubt that such changes are going on all the time, but that many of them are not usually referred to as learning. This serves to emphasise how selective we are in using this term. What it boils down to is that “learning” is a term used to validate certain kinds and examples of personal, social and institutional change: generally speaking, those of which we approve. At times when we speak of learning, we mean social reproduction; at its most exciting it refers to something that at least feels new for the individual.

Counterintuitively, therefore (or, more precisely, in contradiction to habit), a robust theory of education does not need a very robust theory of learning, for it is merely a term of approval for certain examples of changed behaviour. The brains that light up in the psychologist’s laboratory do not learn: learning is part of being a person, and being a person is to be subject to social judgments. The school inspector who tells the teacher that good learning is going on in her classroom is actually telling her that she is doing what he (or his superiors) wants. However, the fact that there really is not much to say about learning from a fully semiotic perspective does not entail a similar dismissal of consideration of teaching.

As has already been shown, students will not react uniformly to what teachers do and say. A teaching act is an invitation, often backed up by a level of threat, but how any individual student will respond to the invitation, in the context of the likely consequences of not so doing, is never quite callable. On the other hand, teachers are employed in order to deliver (in effect) the very personal changes in their students that society will construe as learning, or having learnt. On the face of it, the teacher is in an impossible position, expected to make changes happen in his students without any means of ensuring that they do so happen. To have the greatest chance of achieving his goals, the teacher must try to motivate his pupils to want to achieve what society wants them to achieve. Put differently, the teacher is attempting to develop students’ identities whilst simultaneously challenging them. In this sense, a fully semiotic perspective makes teaching look very difficult (as it is, of course). On the other hand, by seeing students as responding organisms rather than as loose bundles of unrelated but specifiable elements (mind, body, thought, feeling, reason, impulse and so on), a semiotic approach can in fact simplify the problems. On a fully semiotic account, the difference between the educated and the rest, indeed between the criminal and the citizen, lies in how they respond to situations. To understand the problems is to know as much as possible about such responses and does not require much, if any, abstract speculation about morality, motivation or whatever.

Each act of a teacher, be it instruction, explanation, question or whatever, is then both an invitation and a threat. It invites the student to develop her worldview in some way. Indeed, it might be said that each teaching gesture is a (more or less) controlled challenge to the student’s self-identity, for the very act of presenting a new piece of information or asking someone to undertake a new activity is a way of telling them that their world is not quite as it was before: that what they thought was right is not quite right, or that their ways of doing certain things before will not

be quite the same in the future. Of course, one might add that even hearing the same information twice, or repeatedly conducting the same activity results in different outcomes from a fully semiotic perspective; even routine is disruptive to this extent, just as re-reading the same text produces new responses each time. Teachers, however, have been charged to disrupt more than this. Teaching is a disruptive activity. However, as living is a matter of continuous change (not just change brought about by conscious management such as through school and teaching), what is key to its success is how students respond to this disruption: whether they see the teacher's words as more inviting than threatening, and then whether they wish to accept the invitation. For young children, who need adult guidance to survive, the choice is perhaps less difficult: one had better do as the teacher says. For teenagers, indeed for anyone old enough to have formed their own opinions about education, the situation is very different. Nevertheless, the development – or the reinforcement - of self-identity continues, and school is part of that continuation, so teachers are in a privileged as well as a difficult position, as important voices in the unfolding of many personal dramas.

Drawing these strands together, it can be argued that good teaching is about positive identity development of students (Stables, 2003), such that it produces what they, and others, will come to regard as significant events in their life-stories (Stables, Jones and Morgan, 1998), acknowledging, after Derrida, that such identities and memories are never fully fixed. It achieves this, paradoxically, through challenges to self-identity that must be very carefully handled if they are not to backfire. On one hand, this view of teaching may appear negative, insofar as it casts considerable doubt over the degree to which teachers can actually control student outcomes; thus the current vogue for teaching towards the realization of fixed “learning objectives” the attainment of which determines the status of the teacher, is fallacious. On the other hand, if such mechanistic, crude accountability models can be done away with (and they are a recent innovation), there are theoretical frameworks that can guide teaching along both more realistic and more fruitful lines, from a fully semiotic perspective. There is not the space here to discuss such models at length, but three, at least, deserve special mention. None was devised with reference to semiotics, yet all tend in roughly the same direction as the fully semiotic perspective argued for here. These models are those of Dewey (e.g. 1902, 1915, 1916), Lave and Wenger (1991) and Rom Harré (Harré, 1983; Harré and van Langenhove, 1999). Each can be summarized briefly as follows.

Dewey argues for children to undertake meaningful tasks with real social outcomes in a real social context. Lave and Wenger offer perhaps the best known development of this “community of inquiry” theme. (Incidentally, the term “community of inquiry” derives from Peirce: Liszka, 1996, p. 99) On Lave and Wenger's account, the student is a “legitimate peripheral” member of a community engaged in a certain kind of venture, be it science, history, the appreciation of literature or whatever: it is a broadly communitarian development of an apprenticeship model of teaching that resonates strongly with Ludwig Wittgenstein's vivid encapsulation of the experience of learning not as a mental act but as know(ing) how to go on with respect to a “language game” or “form of life” (Wittgenstein, 1967,

S154 and elsewhere). Harré is a discursive psychologist (a position similar to Jerome Bruner's) who sees all psychological and social-psychological development as inextricable from language and cultural interaction. Harré has developed two ideas that are particularly useful in this context. The first is that of the identity project (1983) and the second that of positioning (1999). Each sees the development of individual identity in the context of social action. In his earlier work, Harré identifies the Identity Project as a continuous cycle of self-development involving Conventionalisation, Appropriation, Transformation and Publication. (For fuller explanations, see Stables, Morgan and Jones, 1999 and Stables, 2005.) The important contribution this makes to a fully semiotic teaching methodology is in showing how the student's individual and collaborative actions contribute simultaneously to her own self-development, her mastery of the subject and (if marginally) to the culture (including the subject) itself. It is also a model that valorizes both process and product, for without the Publication element, which guarantees the student feedback on her work, the process is inconclusive. Harré's second, related, contribution is that of his theory of Positioning. As throughout his work, the emphasis here is on identity development in terms of balancing personal and social identities: that is, we need to fit in with others to an appropriate extent, while also being unique individuals to an appropriate extent. (The parallel with semiotics is clear here. We read texts – for example – as members of “interpretive communities” (Fish, 1980) that share perspectives and interpretative frameworks, yet our individual readings are never quite like anyone else's.) Harré effectively has the individual asking, in any given situation, what he would do in such a situation, given his life story so far, and what action will preserve the appropriate balance of social acceptance and individual difference. Harré construes the individual as seeing himself rather as a protagonist in a drama, constrained but not strictly determined by unfolding events. Others who have developed the idea of social life as drama include the rhetorician Kenneth Burke (Burke, 1945; Rutten and Soetaert, 2009).

Such theoretical resources can be brought to bear in the development of a fully semiotic approach to teaching. Overall, such an approach will tend to differ from both content-centred, highly didactic “traditional” approaches and process-centred, or learner-centred, “progressive” ones. Content-centred education erroneously divorces content from process; highly didactic approaches naively assume that what a teacher means is what the student who hears him will mean. Process-centred approaches, however, often rely on a decontextualised view of process that does not relate to cultural practices, including academic disciplines, which have their own distinctive rules and norms (what Wittgenstein referred to as “language games” or “forms of life”). Learner-centred approaches can all too easily regard the learner as a given rather than an identity in flux and under construction. Rather than these, a fully semiotic approach to teaching might best be thought of as activity-centred and learner-aware. That is, as all life is activity, learning activities are simply activities selected in the hope of certain outcomes, and, as people respond according to their individual contexts, the more teachers are aware of students' personalities, backgrounds and present circumstances, the more likely they are to engage them in activities that will be motivating.

In many respects, the attempt to adopt a fully semiotic perspective can simplify teaching, not least by removing anxiety raised by the over-emphasis on unhelpful dualisms. The division into of the self into several discrete elements is eschewed in favour of a holistic (if shifting, even deferred) view of the pupil as responding agent. There really are no grounds for making clear distinctions between, for example, technical, practical, spiritual and moral activities and development, for example, except insofar as certain activities are commonly classified this way. The fact that certain students prefer practical activities to intellectual ones, or tend to be more “instinctive and emotional” rather than “balanced and rational” can reflect a number of influences, both biological and more immediately environmental (for biological adaptation is environmental), but the distinctions between, say, thought and feeling are not absolute on a semiotic account, for reaction to a situation can involve physical arousal (emotion), the running through of linguistic scripts (reasoning/ language) and a combination of these (feeling), yet these are all related. It is a matter of emphasis, not of dividing the curriculum so that each part deals exclusively with one aspect of human response, or even with a neatly defined combination of them.

FROM CURRICULUM TO POLICY

Issues of what should be taught are inevitably bound up with issues concerning what students should be made to study. An entirely voluntary curriculum would arguably not merit the title. In this section, therefore, I offer four criteria that might be used to assess the degree of compulsion that might be justified with respect to (particularly) formal schooling. There is no attempt here to develop a full curriculum theory, or to suggest that a fully semiotic perspective would result in one rigid formulation for curriculum. There are, however, principles at play. First, if living is semiotic engagement, and children are just as much alive as adults are, then children are just as much semiotic engagers as adults are, albeit they are not as experienced so need (diminishing amounts of) protection from aspects of adult society. This partly challenges the deficit model of childhood, dominant since at least Aristotle, that positions children as “not yet able” in almost all important respects, and is a driver of modern thinking about schooling and education more broadly (Stables, 2008b). Insofar as a fully semiotic approach also challenges dualistic notions of rationality (*vs.* desire, emotion or instinct), it renders children as rationalizing as much as adults, though it is important here to distinguish between *rationalizing* and *rational*, since the latter is a value judgment that might still retain its validity on a fully semiotic account. Nevertheless, a fully semiotic perspective offers serious challenges to assumptions that have underpinned the treatment of children in society for some time. Secondly, as stated previously (for it is crucial to the overall argument), semiotic engagement never has fully predictable outcomes. Whatever educational policies are adopted, therefore, there is never a guarantee that the outcomes will be as hoped; rather, it is certain that in some respects they will not! This of itself militates against heavily centralized social planning and steers thinking towards solutions that are more likely to be light-touch,

responsive to local and contextual variation and not over resource intensive, as opposed to those that are heavily bureaucratic, centralized, expensive or authoritarian.

I suggest the following four following criteria for considering how far educational provision should be both specified and compulsory:

- The moral case: formal, compulsory schooling is morally justifiable and justified (i.e. we have the right and the duty to impose it on people);
- The empowerment case: there is a net learning effect for individuals (i.e. you learn more from going to school than if you do not);
- The economic case: there is a net economic gain for society (i.e. people are better off overall for going to school than otherwise); and
- The equity case: there is a net social gain (other than economic) in terms of equity or equality of opportunity or social cohesion (i.e. society is fairer, or more just, or more united as a result). (See Stables, 2009 for a fuller discussion of these.)

What might consideration of these four criteria have to offer a fully semiotic perspective on curricular policy and the provision of formal education more broadly?

Regarding the moral case: if there is one consideration that a fully semiotic perspective stresses above all others, it is that each person has her own view of the world. This does not render her either ontologically free, in the classical liberal tradition of autonomous rational agent, or fully determined as on a Marxist account. People can be distinctive and creative without enjoying absolute freedom, and social and related without being predictable machines. If we regard that person has having human rights, then we have to acknowledge that she has as much right to that view of the world as anyone else. In this minimal but important sense, a fully semiotic approach is egalitarian. Furthermore, as semiotic engagement includes all form of action, then she has the right to enact her view of the world within such constraints as rights-based societies deem necessary for the protection of self and others (acknowledging the wide range of possible interpretations of this basic position). Parents have views about education that, therefore, should be taken seriously by planners and policy-makers. Students, however, have views too, though they are not, unless they are over eighteen, granted full human rights. If, therefore, a child states, “I do not want to go to school today,” the view must be respected even if it cannot feasibly be enacted. On the other hand, parents and educational providers *in loco parentis* have a duty of care that, as it stands, includes the requirement to ensure the child receives education. This seems to be an *impasse* unless the boundaries between adult/ parent and child/student are softened. In other words, adults/parents should negotiate with children/students.

While such a softening may look like an abrogation of responsibilities from one perspective, from another it is merely an acceptance of the inevitable. Many young children do not have views about whether they want to go to school in general and, when such a view is expressed on a particular day there is often a hidden reason for it: perhaps fear of a teacher, bullying or the onset of illness. Parents of very young children are, therefore, wise to grant such requests validity and it is not a withdrawal

of responsibility from the final decision so to do. The case of the fifteen-year-old who takes against school, however, is very different. Young people of this age have strong, often principled, views about society that might inform disaffection with school. They are also, in effect, usually only dependent on their parents financially, in terms of basic survival. In other words, they are reasoning, though immature, persons with strongly held views. A fully semiotic perspective holds not only that they may have such views but that they inevitably will have them and that laws concerning the age of majority will have very limited effect on what such views are. In this case, the currently sanctioned response – that they must be made to attend, and that parents are responsible if they do not – seems wholly inadequate. Whose interests does it serve? Not the parent, who cannot control the “child” (for “child” is partly a misnomer in this case); not the child, who is determined to rebel, so will do so within school, to little ultimate effect other than the distraction of self and others; not the broader society, that spends money on this child’s education with little positive outcome, and certainly not the teacher whose life is made difficult by his presence in class.

Notwithstanding the logic of making teenagers more accountable for the consequences of their own responses (for example, perhaps, by allowing them to try to find their way in the jobs market without qualifications), social policy has tended in recent years to act more and more in terms of control and reinforcement. This can to some extent be explained by the acceptance that schools are only in part educational institutions. It is a necessary but not sufficient condition of schools that they educate. It is not a sufficient condition in that schools have to exist in any case to keep young people out of the way while “adults” (for not all these are mature, reliable creatures either) get on with their economic lives. Schools are integral elements of social organization in so-called “developed” countries.

To move closer to a fully semiotic position on the moral case would therefore require critical reappraisal in two areas: what we mean by childhood, *cf.* adulthood, and what we mean by schooling. On one level, the way forward seems clear: the existing conceptual demarcation between child and adult is far too clear-cut, creating a deficit view of young people who must be kept out of the way of normal society, thus necessitating the ever-increasing provision of institutional education, so to move on from this we need a greater realization that the transition from childhood to adulthood is gradual, fluid and not uniform between persons, that adulthood is not much more a fixed and final state than childhood, and that the services young people require to develop as individuals and citizens will vary from case to case and can be, at least in part, articulated by the young people themselves. That this is not fully acknowledged points to a lazy society that attempts to standardise and mechanise education in the forlorn hope that this will make things better when really it is holding up the development of the young people it purports to serve, while wasting large amounts of money in the process providing people with services different from those they would elect to receive. To adopt a fully semiotic perspective would surely entail respecting the meaning-making of others in the world, which in turn implies a positive orientation towards listening to, and negotiating with young people who are old enough to argue a case.

Clearly, this perspective invites a shift of emphasis rather than promising an end point. Schools, for example, cannot simply be replaced or radically altered tomorrow, and children – young children, anyway – cannot simply be left unattended. However, insofar as this shift of emphasis is called for, it should reasonably apply to the details of curriculum as well as to the general provision of schooling. I have argued to some time (e.g. Stables, 1996) that curriculum planning should acknowledge as one of its aims the movement towards experiential autonomy, and that one of the strongest ways of doing this is to educate young people in choice so that they are not summarily ejected from a highly limited choice environment into a highly individualized globalised risk society (Beck, 1992). Again, this runs counter to recent trends in countries such as the UK, where curricular compulsion has tended to increase. However, whatever the temptation to argue that “all young people need to know...” X or Y, a fully semiotic perspective will stress that no one makes sense of X or Y exactly the same as someone else within the contexts of their own lives, that neither X nor Y means anything anyway outside contexts of use, and that no previous attempts at standardizing the curriculum have resulted in levelling of outcomes, let alone greater collective understanding. There is no clear evidence that people who have experienced more broad and balanced curricula are more broad and balanced personalities! Furthermore, if a Darwinian adaptation model is preferred to “learning theory”, it can be argued that variety is key to future thriving, and that homogeneity is dangerous.

In summary, the moral case depends on relations with young people and cannot merely be settled with respect to adults’ convenience. A real parental or adult duty of care must involve full recognition of the validity of the child’s own *semiosis*.

This validation is crucial to the child’s capacity to make the most of the opportunities schooling can provide (bearing in mind that an “opportunity” it always something subjectively taken rather than objectively provided). If the current arrangement is lazy (and, after all, each protesting adolescent does not have to put up with it for long before finding himself on the other side of the fence, so young people themselves will not change the system), it is also wasteful. Every time a disaffected teenager is asked to put up with formal education for another week, month or term, that is a week, month or term during which that person may well not be developing as fully as she might. It has already been established that, on a fully semiotic account, schooling and formal education cannot validly be said to hold a monopoly over learning; indeed, an obsession with “learning” (thinly veiled as coming to know and do what the authorities have stipulated) can rather be seen as anti-educational, with the very emphasis on learning positioning the child (but not the adult) as needing to learn and thus dependent. Therefore, it cannot be argued that school teaches you how to learn where “learning” is a facet of self-empowerment. To meet this criterion requires the willingness of the learner.

Not only is school narrow in its expectations, it also keep young people dependent insofar as it denies them opportunities to realize the consequences of their intended actions. A fully semiotic position is philosophically pragmatic. That is, meaning is meaning-in-use and what something means to us is determined by

what it turns out to be. In Peirce's words: "Consider what effects, which conceivably might have practical bearings, we conceive the object of our conception to have. Then our conception of these effects is the whole of our conception of the object." (C.S.Peirce, in Urmson and Réé, 1989:256) Again, however, to allow young people to make mistakes, as well as to discover success in the world requires adults taking the risk of allowing them space within daily society, an inconvenience that we do not, collectively, seem keen to subject ourselves to. The greater the compulsion within schooling, therefore, including within the curriculum, the less students are exposed to the consequences of their own choices, and thus the greater the constraints on their self-development. To repeat, however: this is only the case insofar as compulsion is conceived of, and thus acted against, as a constraint.

The overall economic case for compulsory education is highly speculative, and beyond the powers of the present author to develop in any convincing or worthwhile manner. However, although one can show a correlation between the extent of formal, including compulsory education and the overall financial of nations, this does not necessarily mean that the former causes the latter. Although it may be the case that many of the skills employed to drive economic growth are derived, in whole or part, from school, they are clearly not all so derived. Nor does individual school success always determine financial success. Extending the debate into higher education, although recent data from the UK and elsewhere continue to suggest that graduates earn more than non-graduates, there are several ways of measuring this. The fact that a degree "pays" in one context does not guarantee its paying in another; there must come a point at which returns diminish, as a wholly graduate population would not bestow any advantage to graduates. Either way, there are reasons to doubt whether ever-increasing formal education will lead to ever-increased prosperity. It might also be added that the worlds of school and work are often highly dissimilar, thus throwing into question the value of schooling as preparation for the labour market.

Finally, it has already been ascertained that institutionalized respect for the unpredictable worldviews of others is possible only within a society that is liberal insofar as it is committed to basic human rights (rights of freedom of speech, assembly, belief, religion and so on). It has also been noted that there are many interpretations of such a commitment. Simply to adopt a fully semiotic perspective as ground for beliefs is not, of itself, enough to argue the case for or against, for example, positive discrimination, the extension of welfare, or the extent of redistribution of wealth. However, a fully semiotic commitment can always inform such deliberations, throwing up questions such as the following: "If individual perspectives never fully cohere, how far should identity politics assume homogeneity within ethnic or cultural groups?" and "To what extent is it possible to think in terms of social contracts when individual preferences are aspects of worldviews rather than conceptually dissociable from them?" It is far beyond the scope of this chapter to resolve these issues. However, they are not only issues for policy makers, important in consideration of how far schooling and curriculum should be specified, but can inform the curriculum directly, in terms of its content (what is perceived as relevant or important for particular constituencies) and its

delivery or transaction by teachers and students (the emphases within subjects, the issues addressed and the role of debate in addressing them). The potentially foundational elements of a fully semiotic perspective that might be brought to bear on such issues are as follows: that humans do not have separate minds and bodies but engage with their environments as a whole; that such engagement is always context dependent in the broadest sense, and therefore that actions and responses always have an element of unpredictability as well as being grounded in socially accepted patterns; and, finally, that this is true for all people, of all ages, in all situations. Indeed, this may be the only thing that is true for all people in all situations, and thus form the only safe basis for a more secure and flourishing interdependent future.

REFERENCES

- Barthes, R. (1970). *Mythologies*. Paris: Seuil.
- Beck, U. (1992). *Risk Society: Towards a new modernity*. London: Sage.
- Bonnett, M. (2004). *Retrieving nature: Education for a post-humanist age*. Oxford: Blackwell.
- Bruner, J. (1997). *The culture of education*. Cambridge, MA: Harvard University Press.
- Burke, K. (1945). *Grammar of motives*. New York: Prentice Hall.
- Culler, J. (1976). *Saussure*. London: Fontana.
- Deely, J. (1990). *Basics of semiotics*. Bloomington, IN: Indiana University Press. Retrieved February 26, 2009, from <http://carbon.cudenver.edu/~mryder/deely/basics>
- Deleuze, G., & Guattari, F. (1994). *What is philosophy?* New York: Columbia University Press.
- Derrida, J. (1978). *Writing and difference*. London: Routledge.
- Dewey, J. (1896). The reflex arc concept in psychology. *Psychological Review*, 3, 357–370.
- Dewey, J. (1897). My pedagogic creed. First published in *The School Journal*, LIV(3), 77–80.
- Dewey, J. (1902). *The child and the curriculum*. Chicago: University of Chicago Press.
- Dewey, J. (1915). *The school and society*. Chicago: University of Chicago Press.
- Dewey, J. (1916). *Democracy and education*. Toronto: Macmillan.
- Dewey, J. (1925). *Experience and nature*. La Salle, IL: Open Court.
- Fish, S. (1980). *Is there a text in this class? The authority of interpretive communities*. Cambridge, MA: Harvard University Press.
- Harré, R. (1983). *Personal Being: A theory for individual psychology*. Oxford: Blackwell.
- Harré, R., & van Langenhove, L. (1999). *Positioning theory: Moral contexts of international action*. Oxford: Blackwell.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Levis-Strauss, C. (2001). *Myth and meaning*. London: Routledge.
- Liszka, J. (1996). *A general introduction to the semiotic of Charles Sanders Peirce*. Bloomington, IN: Indiana University Press.
- Lytard, J.-F. (1988). *The differend: Phrases in dispute*. Minneapolis, MN: University of Minnesota Press.
- Maran, T. (2006). Where do your borders lie? Reflections on the semiotic ethics of nature. In C. Gersdorf & S. Mayer (Eds.), *Beyond wild nature: Transatlantic perspectives on ecocriticism*. Amsterdam: Rodopi.
- Mauss, M. (2001). *A general theory of magic*. London: Routledge.
- Mercer, N. (2000). *Words and minds: How we use language to think together*. London: Routledge.
- Peirce, C. S. (1904). Ideas, stray and stolen, about scientific writing. In *The essential Peirce. Selected philosophical writings* (Vol. 2, pp. 325–330). Bloomington, IN: Indiana University Press.
- Peirce, C. S. (1958). *Charles S. Peirce: Selected Writings (Values in a Universe of Chance)* (P. P. Wiener, Ed.). New York: Dover.

STABLES

- Rutten, K., & Soetaert, R. (2009). *The Rhetorical construction of the nation in education: The case of Flanders*. Paper for Rhetoric in Society conference. Leiden: University of Leiden.
- Saussure, F. de (1983). *Course in general linguistics* (C. Bally & A. Sechehaye, Eds., R. Harris, Trans.). La Salle, IL: Open Court.
- Sebeok, T. (2000). *Life signs: Essays in semiotics*. Ottawa: Legas.
- Stables, A. (1996). *Subjects of choice: The process and management of pupil and student choice*. London: Cassell.
- Stables, A. (2003). Learning, identity and classroom dialogue. *Journal of Educational Enquiry*, 4(1), 1–18. Retrieved from www.unisa.edu.au/JEE/
- Stables, A. (2005). *Living and learning as semiotic engagement: A new theory of education*. Lewiston, NY: Mellen.
- Stables, A. (2008a). Semiosis, Dewey and difference: Implications for pragmatic philosophy of education. *Contemporary Pragmatism*, 5(1), 147–162.
- Stables, A. (2008b). *Childhood and the philosophy of education: An anti-Aristotelian perspective*. London: Continuum.
- Stables, A. (2009). *Should the debate about compulsory education be re-opened? Philosophy of education yearbook*. USA: Philosophy of Education Society. (In press)
- Stables, A. (2010). Peirce, meaning and difference. *Scandinavian Journal of Educational Research*. (in press)
- Stables, A., Jones, S., & Morgan, C. (1999). Educating for significant events: The application of Harré's social reality matrix across the lower secondary school curriculum. *Journal of Curriculum Studies*, 31(4), 449–461.
- Urmson, J. O., & Rée, J. (Eds.). (1999). *The concise encyclopaedia of western philosophy and philosophers*. London: Routledge.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wells, G. (2008). *Dialogic Inquiry: Towards a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.
- Wittgenstein, L. (1967). *Philosophical investigations*. Oxford: Blackwell.

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