



Technocultural Education

Lars Løvlie

Professor
University of Oslo
Email: lars.lovlie@ped.uio.no

Abstract

In this essay I try to describe the development of a traditional liberal education into a technological liberal one. I propose that we start by dropping the classical oppositions between man and animal, and man and machine; that we stop pitting morality against technology and rhetoric; and that we do away with the idea that ICT in our schools will necessarily tear the fabric of education apart. We should rather try and re-describe the idea of an unencumbered and independent self in terms of relational concepts, like the cyborg or more radically: like the self as interface. John Dewey led the way to this view a century ago, by coining the word intelligence as the name of educative interactions between man, animal and machine. The self as interface is a self of differences rather than identities. But that idea does not do away with our emplaced body, or our personal sense of self and identity. In the postmodern world, the cyborg is a migrant with the ability to interpret signs, understand symbols of power, see through rhetorical games, engage in argumentation, and in these activities partake in his or her own political education. The Internet nomad does not bode anarchy. He or she is the radically decentred subject that may well participate in Kant's cosmopolitanism, Jürgen Habermas' discourse ethics and Jacques Derrida's deconstruction. – But this is to go slightly beyond the text submitted here ...

Technocultural education is an attempt to describe education in a postmodern, technological society. If we include the Internet in our description, this society is only ten years old. To talk about education in this ultra-brief perspective is risky – and exciting. Risky, because teletechnology's actual transformation of schools and society depends just as much on tradition as on technological innovation; exciting, because technology offers entirely new approaches to teaching. What can be said, then, about education in the longer historical perspective? A good deal! The concept of liberal education – *Bildung* – was developed in the late seventeenth-hundreds. It influenced philosophy, literature and politics in Germany, and featured in the literature of Goethe and Schiller as much as in the philosophy of Humboldt and Hegel. In its classical form, the concept contained two elements: the strength and expression of the self and the power and influence of culture. To this unity of the individual and the universal we can add a third element, namely transformation or the poetic 'refinement' of the relationship between the self and culture. For education drew its inspiration primarily from the idea of the expressive and creative individual.

The concept of education has naturally changed in content over the last 200 years. Any reconstruction of the concept must allow for the fact that not only

do we think differently about ourselves today but also that we live in a technological culture that the old educational theorists could not have dreamed of in their wildest fantasies. Just as the postmodern has given rise to new ways of thinking about ourselves, so has teletechnology given us new means of communication. The postmodern self and teletechnological culture have a special interrelationship that is transforming not only the self and culture but also the concept of education. Nevertheless, post- and tele- are after all only prefixes to the modern and thereby to the long history that links us to the old educational thinkers.

I am not primarily interested here in what schools should be doing in the Internet age but in how we might look at the idea of education in the Internet age. The reconstruction I am attempting is philosophical. It seeks to say something about education *before* we raise purely practical questions about the kind of learning matter that educates, how it should be adapted for educational purposes, and what characterises an educated person. Today education can be described in terms of the interface. The word implies a boundary, a border, an in-between. An interface is nothing in itself.¹ It does not refer to a substantial self or culture but rather to the intersection where they meet. It conveys, too, the idea of exchange and transition and is analysed in terms of restlessness, movement, and transformation. The interface is a feature in the postmodern version of the traditional concept of liberal education as the transformation of the self and culture. But before we come to the postmodern, we must first outline the historical backdrop to educational theory. Moreover, the local Norwegian anti-technology debate over the last generation must be given its place because it may contribute to an understanding of the interface as a transformation of the traditional idea of education.

The advent of technoculture

It is common to associate education with humanism and the cultivated man, formed by classical literature, national traditions and the mother tongue. In the 19th century German Neo-humanism of the middle class educational elite mounted a critique of realism, the natural sciences and technology. For them, science was without a soul and the machine without humanity. The study of science and technology might well educate but at best it was an education of mere utilitarian value. It certainly could not educate people to true humanity. But the conflict between realism and humanism, formulated by Wilhelm Dilthey (1833-1911) as the opposition between the sciences and the humanities, could nevertheless not ignore the need to see humanism as parallel to and not in opposition to technology. For technoculture is not only older than German educational culture or *Bildung*, it is also a natural part of that culture. We should not forget that book printing in its time was a radical technocultural breakthrough. From the 1450s onwards, printing governed our relationship to the word and transformed our relationship to language, for example by extending an oral tradition to a written one, a revolution in itself. For in the space of only 20 years – and that was incredibly fast in the age of the horse-drawn carriage – Gutenberg’s technology spread to several of Europe’s most important seats of learning. Today people read books without even thinking about the technology literally imprinted in them, from the use of typeface to binding and dust-jacket. Or take the transition from book to image. From the 1830s onwards, photography taught us to see people and the world through the still picture, a multifarious and universal form of representation that retains its fascination today: just think of the family photo album, the photographic portrait and the art photo. 100 years later, broadcasting created a revolution in communication from the one to the many and helped transform the general public into an audience. This was before TV, the computer and the mobile phone made their breakthrough and created a

communication network with a broadband capacity unheard of only 10 years ago.

Technology tends to be viewed as a threat before being incorporated into our culture. Thereafter it is used without our ever thinking that we've been technocultural beings for a very long time. Some people may still think that the new information and communication technology (ICT) has left humanism in dire straits, sucked the life out of it indeed, leaving it a mere rhetorical shell for the pop world to fill with glitter. They ignore the fact that teletechnology is not the cause of tabloidization, Madonna and Nazi propaganda on the Internet, and so let humanism's potential in the postmodern technoculture pass them by. True, teletechnology has contributed to information chaos, advertising and Internet pornography. That doesn't prevent ICT from bridging the gap between humanism and technology or from playing a role in education. We don't talk about liberal education or *Bildung* in the same way as in the period from 1770 to 1830, which was the time of liberal humanism's flowering and growth in Germany. We may, however, talk about a technocultural liberal education. Let me describe briefly the transition to this concept.

Technocultural liberal education takes leave of the old nature/culture and man/machine antitheses. These oppositions grew out of the classical German concept of education and came to play a role over generations in the resistance to naturalism – that is, the idea that man was nature rather than spirit. Today it makes no sense, and serves no useful purpose, to set humanism up against naturalism. To put it this way: anti-naturalism became untenable when the human genome project was completed in the winter of 2000. This project fixes the gene as the common denominator of man and beast and invites us to stop speaking of human nature as something *categorically* different from that of the animal. The mapping of the human genome shows that only local codes distinguish us from animals. Though people and animals may differ in essential ways, they now belong to a world that is basically ecological and interactive. Resistance to the machine lost its basis in equally dramatic fashion with the advent of the personal computer. It is the capacity for empathy, respect and care for others and not intelligence that separates us from the PC. The PC shares intelligence with man and because of that it is integrated in people's lives in a wholly different way from the production machinery of the past. In short, biotechnology and teletechnology are serving to unite ideas which historically have been seen as disparate.

The birth of the cyborg

The 19th century was the century of the educated middle class and the elite university. Those who sympathised with this world-view did not incorporate technology in the humanistic project the way the American pragmatists did in the 20th century. Technology was, and remained for European culture, a threat to the truly human. But Neo-humanists too readily confused technology with its effects on industrial society. The new technology at that time raised basic ethical and political problems, as it still does. Teletechnology, for example, has revived debate on freedom of expression, surveillance and censorship. Biotechnology has already introduced ethical problems which make for political discord and struggle, as evidenced by the debate on foster diagnosis and stem-cell cultivation. Nevertheless, technology has continuously insinuated itself into the picture as a way of life and an educational horizon. The art of printing not only gave us the book but also led to coffee houses, reading circles and libraries. It created a reading public and a middle class citizenry with expectations in regard to information and education for all. The book played a role in that earlier technoculture as a persuasive cultural force. Today the PC has a similar role. Surveys show that the Internet's primary function is as a social meeting place. The grating of metal against metal has

been replaced by the tapping of the keyboard and the insistent hum of the cooler fan.

While the book reinforces the subjective element in reading, the PC primarily invokes the intersubjective and interactive element. While the book created a literary public, the computer is creating an electronic one. The electronic public does not obey the rules of historical reason à la Hegel, by which oppositions are resolved in unity and institutional harmony. Historical reason no longer act as a unifying force nor is there any universal humanistic spirit or spirituality to turn to. John Dewey (1859-1952) took a new course by introducing a new name for the German *Geist* or spirit: intelligence. He described intelligence in different forms of interaction: he talked of intelligent people but could also talk of intelligent animals and tools. Dewey's change of terminology was an attempt to do away with metaphysical notions of the self as a fixed dimension, with an innate essence and autonomy. He resisted the self as self-identity and identity as something we can find or recover, as if it were lost property. For Dewey the "I" is not a spectator of the world but a participant in a relational and interactive world. To apply intelligence as a generic term for the activities of men, animals and machines does not mean ignoring the specific differences between them. Although I share more than 98 per cent of my genes with a chimpanzee, I am not a chimpanzee; and although I write on a PC, I am not a computer. Technocultural education is a different type of education because it uses different concepts and metaphors to describe the relationship between man and nature, man and machine.

The *cyborg* is the metaphor for this – in the best sense – symbiotic relationship between man and machine. This metaphor suggests how the critique of instrumentalism in Norwegian social- and educational philosophy as it has developed from about 1970 until now, should be re-written. The cyborg is the metaphor for postmodern technoculture. The name is derived from the initial syllables of *cybernetics* and *organism*, thus uniting technology and biology in the description of man. In 1985, Donna Haraway published an imaginative article which she called 'A Manifesto for Cyborgs'², in which she proposed using the cyborg as social reality and fiction at the same time. Not only was this a good idea for mixing genres of description but it also served to reconcile man and machine. Because we are electronically linked to the world around us in different ways we are all cyborgs. Scarcely a day passes without our opening a PC, calling from a landline or mobile phone or driving a car or bus in which the ignition, fuel injection and servo-steering are electronically controlled. And as users of pace makers and hearing aids we are already part of technoculture. But this is not where Haraway's most important point lies. The cyborg as metaphor is an invitation to think in contexts where the opposition of man and machine is replaced by the interface between them. The cyborg is not, as we may immediately be led to believe, primarily a being of flesh and blood and electronic prostheses but rather the interface between man and machine.

The interface and hypertransformation

What's the interface? The screen is an interface, whether we're talking about the TV, the PC or the display on a mobile phone. The interface is the dividing line between person and machine but at the same time marks the spot where the person stands face to face with the machine. That is why interface is such a graphic term. The cyborg originates in the interface, as electronically mediated communication between participants. Take the owner of a mobile phone. For a young person, the mobile phone is naturally a thing to be bought, used – and lost. As a thing it is getting ever smaller and packed with ever more functions, so that it now works like a mini-PC. But the mobile is first and foremost part of a youth culture with SMS and MMS messages, interchangeable covers and personal ringing tones. It acts as a psychological and social interface. At the

same time it is more than a thing, because it plays a part in the individual owner's status and social recognition. The young owners do not necessarily identify with the mobile as a fetish, although it may offer an aura of freedom and power. Rather, their identity is linked to the mobile as distributed intelligence in a network in which they realise themselves in ongoing dialogues with others. Their identity is between rather than in the participants, identity is in the interaction. Cyborgian identity is realised in the interface but where the interface is put in these networks is arbitrary. It may be located between the sender and the mobile but can also be minimised to the point of impact on the retina; it can be located between the sender and the software in the cell-phone or also between sender and receiver. In these cases, the interface marks meeting places in the world. As "located" by its interfaces the cyborg belong to a topology of interactions, that is, it is caught in the contextual and situated descriptions that vary according to my activities online and off line.

Interface is a boundary but not in the sense of a barrier or obstacle. A boundary faces two ways, it both unites and separates, it is face-to-face and Janus-face. The cyborg is on the one hand the locus where nature and culture, man and machine meet – a metaphor for "pure" communication. But John Dewey hinted at the practical version of the cyborg long before this word came into circulation after the Second World War. He described consciousness – *the mind* – as the 'name for a course of action in so far as that is intelligently directed; in so far, that is to say, as aims, ends, enter into it, with selection of means to further the attainment of aims'. And he adds: 'Intelligence is not a peculiar possession which a person owns; but a person is intelligent in so far as the activities in which he plays a part have the qualities mentioned'.³ We are in the habit of talking about activities as if they belonged to the person lifting a stone, driving a car or speaking on the telephone. For Dewey, activities were not primarily properties of the individual or the world but of the relationship between them. This way of looking at it turns actions into something more than the person's intentions, decisions and motor movements. Instead, action forms interfaces between the person and the world. The interface is not itself a thing in time and space but the difference between things.⁴ Today's technoculture reinforces this point of view in surprising ways: what lies between me and the world gains greater significance. The intermediate, the interesting has now become inter-esse, in the literal sense of "that which is between", and is realised in communication.

But this approach also raises a major question: How can we talk about educating the person if the relationship between me and the world shrinks to a play of differences? The answer can be formulated thus: if we keep to the key dynamic of traditional education, which is transition and transformation, then present-day technoculture has led us to what we might call hypertransformation. Hypertransformation takes place online as experiences of play, change and difference. But this experience is the opposite of the old industrial society's 'alienation'. Alienation meant that the person lost his sense of individuality by being forced into an anaesthetic, monotonous and repetitive relationship to things. By contrast, the hypertransformative contributes to an enhancement of the self and to a heightened self-esteem in the vivid experience of the other. It allows confirmation of our qualitative 'spiritual' relationship with the world, in which the dialogue with the other can develop. The younger generation interact intensely on the Internet and equally intensely in mixed situations in which the mobile phone participates in the ongoing dialogue between people in physical proximity. Hypertransformation is revealed in the intensity of these dialogues, which are strongly 'poetic' or creative, precisely because they are unstable and fluid. There is no question, however, of losing oneself in this dialogue but rather of constantly re-discovering oneself in the relationship with others. The young are cyborgs, they live at the interface and create their world there. The Internet offers new dimensions to a communicative existence. We discern the connection between educating the cyborg and the traditional insistence on education for humanity.

The German philosopher Wilhelm von Humboldt (1767-1835) asserted that humanity is formed by connecting the self to the world in the most universal, vivid and freest interaction.⁵ In doing so, he was expressing the leading principle of German educational thinking. He was a firm proponent of the idea of the self as the driving force and focal point of education. This did not prevent him, however, from seeing education as a refinement of the relationship between the self and the world. He and the other Neo-humanists were far removed from the notion of the literacy as mere factual knowledge to be learned by rote. Knowledge and practice were a necessary but insufficient condition for education. The key aspect was the educational power of the subject matter and this could only be communicated in the engaged and free interaction between those studying and the subject matter. It was for that reason that the ideal of a community of scholars of professors and students was a key tenet of Humboldt's conception of the university. Education was for Humboldt basically aesthetic, a matter of feeling and the senses, that is, experiences that provided motivation for educational activity. For him, humanity's goal stands open; it existed before education took didactic form. The transition from an expressive self to the cyborg radicalises Humboldt's view of education as reciprocal influence or interaction. Dewey's notion of education as problem-solving serves as pragmatism's intermediate link to an idea of technocultural education, with the interface and the cyborg as key educational concepts.

I have indicated some differences between the bookish approach to education prevalent around 1800 and a digital educational culture 200 years later. Postmodern technoculture has abandoned the idea of man's privileged position in relation to nature. It has put behind it the traditional divide between naturalism and humanism. By creating new interfaces, the interactive media contribute to promoting the primary aim of classical education, which was free interaction between the self and the world. In the cyborg's perspective, education cannot be reduced to analysis of the self on the one hand and the subject matter on the other. The metaphor introduces a perspective which assumes a critical approach to such a dualist and 'objectivising' pedagogy. The cyborg sets the stage for notions of the subjective as relationship, prior to the subject as ego acting on the world. Moreover, the electronic interface allows us to see the limitations of the current Neo-liberal view of man. In a 'virtual' world described in terms of interfaces and communicative meetings, the notion of the isolated, atomic and purposefully rational individual can scarcely survive as anything more than ideological jetsam. Of the three elements of traditional education: self, subject matter and transformation, the last of these concepts assumes lasting pedagogical importance, both theoretically and didactically. To be sure, the self and subject matter remain key elements in education. But education's dynamic is now found in the interfaces, which in turn can be incorporated in expanded qualitative descriptions of friendship, caring relationships, collaborative relationships, to name but a few. The interface contributes to creating the existential unrest that forces us to find new arenas for communication. It sharpens focus on the meeting between teacher and pupil. We can therefore imagine a different educational topology, that is, of new 'locations' or themes which may ultimately describe technoculture's dialogical content.

Anti-instrumentalism superseded

It now seems both appropriate and important to examine the thematic constellation I have proposed in the local Norwegian context – for two reasons: firstly, as a critique of philosophical anti-instrumentalism; and secondly, as a re-assessment of instrumentalism in education. In the late 1960s and early 70s a critique of “positivism” and instrumentalism took place in European philosophy and education. The critique was particularly directed

at a misplaced demand for scientific objectivity and strategic thinking in education, used by both social planners and educationalists in the implementation of the Norwegian comprehensive school system. This technology was based on mechanical teaching machines using simple programmes, with the aim of meeting the new lower secondary level's need for adapting to the individual pupil's needs within the setting of the classroom. In this scheme of things, the teacher was expressly described as a teaching aid in a strict taxonomic scheme. General objectives should be realised in concrete terms of knowledge and behaviour capable of being the object of evaluation and control. The project foundered on the simplicity of its basic concept and on the Norwegian child- and culture-centred teaching tradition.

The Internet has surpassed and truly revolutionised this setting, and that is why instrumentalism itself is in need of a reformulation. The new technology is not based on mechanical devices but on electronic communication. It is not a mere factor in learning but has itself become a frame of reference for organising learning as hypertextual, experience-based and project-oriented. The Internet is not structured in accordance with the logic of strategic planning or instrumental action. It is more or less chaotic, as any browser finds out for herself. The Web is organised as hypertext, with no strategic centre of authority or power and with a logic that links information in search patterns the user himself must find his way in. The Internet opens the door to undermining and protest, usurpers and hackers, surveillance and sabotage. At best it provides fora for civil society's politico-cultural projects and organisations. These fora may use the mobile phone, e-mail and the Web in seeking to promote deliberative democracy's call for reasoned argumentation and negotiation. The new technology poses no inherent threat to political education. On the contrary, it is part of the postmodern education project, for it permits what traditional machine technology denied: public exchange of opinion and critical debate.

Anti-instrumentalism used the craftsman as a negative metaphor. For the teacher as craftsman, the child is an object to be formed in the image of the adult. The teacher owns the idea of what the object can become and knows the method for realising it. She sees upbringing as *tekhne* – technique or processing – and commits what the Norwegian philosopher Hans Skjervheim called the instrumentalist's mistake.⁶ The mistake is to regard pedagogy as a "rational objective" activity. The instrumentalist lives in the subject-object divide and ignores the Aristotelian distinction between *poiesis* and *praxis*, between making or processing something and acting morally and politically. Anti-instrumentalism took its inspiration, however, not so much from Aristotle's *polis* as from Kant's theory of moral obligation, expressed as the moral imperative not to treat the other person as a means but as an end in itself. Skjervheim was right in his critical rejection of the idea of making the pupil an object and upbringing the manipulation of behaviour. It has nothing to do with education for social integration and political reflection and action. But his theories tied instrumentalism to technology, and thereby succeeded in shielding the question of education from taking the technological perspective in general. This has left its mark on Norwegian educational debate to this day. The argument seems still to be between a child-centred tradition on the one hand and a standard teacher-centred tradition on the other. Across this axis there is, so to speak, a second-division match going on, between a Protestant work ethic that swears by knowledge and diligence, and a rhetoric that promises to turn everyone into a happy consumer. Both extol the individual and both shackle the pupil in the chains of achievement.

Norwegian anti-instrumentalism was both anti-pragmatic and anti-rhetorical. But it was unfortunate even 30 years ago that Skjervheim rejected John Dewey as instrumentalist and thereby underestimated the importance of American pragmatism as the theoretical basis for a liberal political education and critique. Following the rehabilitation of pragmatism as a linguistic and action

theory in the 1970s, first by philosophers such as Karl Otto Apel and Jürgen Habermas and later by Hans Joas, this became generally recognised. It was perhaps even more unfortunate that Skjervheim rejected rhetoric and so lost sight of rhetoric's potential for a critical education.⁷ The full significance of this rejection became clear in the course of the 1990s. A double prejudice clung to the theory: that technology is a threat to cultural and moral concerns, and that rhetoric is nothing but persuasion and manipulation. This scenario created a blind spot that obscured the possibilities of the Internet. The anti-technology movement was not only off-centre in regard to postmodern technoculture. It also remained silent and passive in the face of the actual use of power and manipulation in the past decade and which manifested itself again in connection with the educational reforms of the 1990s. Skjervheim ignored the fact that rhetoric itself can provide the tools for rhetorical criticism, not only because it knows about the misuse of rhetoric from the inside, so to speak, but also because rhetoric itself contains the rules for critical dialogue. It is not the case that reasoned argument belongs to a different category from rhetoric. On the contrary, as *genus deliberativum* or political deliberation, argumentation is part of rhetoric. To ignore this connection is so remarkable that it needs an explanation. Part of the explanation lies in Skjervheim's intellectual roots.

Argumentation is a procedure – and so a *tekhne*. A reasoned discussion follows established rules for objective argumentation. Rhetoric is also a *tekhne*, but with a varied repertoire. Rhetoric is sensitive to the needs of the situation and the limits of argumentation, without rejecting argumentation as *topos*.⁸ Topology can be configured in three senses of the original Greek word *topos*: as geographical location, as discursive situation and as topic of discussion. Topology does not favour argument but migrates between arenas of rational discussion. The coffee house, the seminar room and the reading circle unite the three meanings: they are geographical locations that provide different contexts for discussing common topics. Technocultural education encompasses argumentation but also finds alternative ways of conducting rational discussions. Education is a general *topos* for discussions which have abandoned the *categorical* distinction between true and false, between philosophical conviction and rhetorical persuasion. Topology therefore defies the hegemony of argumentative reasoning. A nomadic culture survives, as we know, by moving from place to place to maintain its biological and cultural life. In the postmodern world, the nomad is a technocultural migrant, who can interpret signs, understand symbols of power, see through rhetorical games, engage in argumentation, and through all this is formed into a politically educated individual. That which in the 1970s was ideological awareness-raising in a dualist world is today rhetorical awareness-raising in many shades and in myriad locations for moral and political education.

A critique of subjectivity

Opponents of instrumentalism defended the autonomous subject and the empowered individual. They were often learner-centred, dialogue-conscious and politically aware, and dissociated themselves sharply from French deconstruction. Deconstruction belongs to the discourse on technocultural education and refers to critique in the traditional sense, as an inquiry into and analysis of theories of technology and rhetoric.⁹ The first step in this criticism was to introduce the interface as a *topos* and the cyborg as a metaphor for education's subject. This subject is not Kant's autonomous or unencumbered ego but rather Hegel's subject of mutual recognition.¹⁰ The cyborg is, so to speak, implaced in Hannah Arendt's description of action as 'the spontaneous beginning of something new' as the person appears in the public arena.¹¹ In the next phase, the traditional educational subject will be deconstructed through various vignettes. These vignettes are examples of the decentred

subject and the *topoi* in which this subject finds itself. The examples are more than illustrations. They can be regarded as extended metaphors, as both situational description, interpretation and argument.

Kant's statement in his *Critique of Pure Reason* that 'I think must accompany all my representations'¹² sets the scene for the centring of knowledge and morals in the subject's mental schematisation of the world. This "I" should not be mistaken for a psychological instance or a Freudian ego. Rather, it is the activity that structures experience and moral judgement in the first place. It is transcendental, that is, prior to the psychological subject that interact with the world through its ability to perceive, reason and judge, in other words the subject talked about in educational psychology.¹³ Hegel broke with the perception of the "I" as education's point of departure and thereby opened the way to the notion of interactivity. Of the 'idea' Hegel says that it is neither a disposition nor a representation in my head. Nor is it a theory, for the self does not apprehend the world but rather itself as thought. A theory cannot in itself be true of the world, for truth, according to Hegel, is first found in the concrete unity of thought and object. The appreciation of art is not, then, in the beholder but in the relation to the art object. We may entertain an ideal of the constitutional state, but the idea is only true, in the sense of real, when actual, positive law matches the ideal of justice. We may dream of the perfect friendship but a true friendship is the one that unites dream and reality in a concrete relationship – and thereby step out of the dream. At one point, Hegel sums up his views by saying that the concept of art, the state or friendship is the realisation and development of these institutions¹⁴. He had no time for intellectual abstractions about things. To him what is only in the mind is abstract, while the relationship between what we have in our heads and the world we live in he considered concrete. His concept of education is concrete much the same way von Humboldt's is. Hegel thereby supplied a good argument for education as consisting of *topoi*, that is, the places where thought and object meet. He decentred the subject in a radical way by locating it in history – in customs and rituals, scientific and artistic forms, and in social institutions such as the family and the school. In Hegel, the Kantian 'I think' steps out of its egocentric existence and into the sphere of recognition, where "I is *we* and *we* is I", as Hegel puts it in another context¹⁵.

Hegel rejected the autonomous "I" and introduced a relational subject that is different from itself. To say this would seem an obvious self-contradiction. But the examples given above should make it more understandable. Hegel introduced a version of the interface when he proposed that justice, friendship and love must be defined, not as atomic or isolated, but as relational in their concrete appearances. They are dialectical concepts or *interfaces*, in the sense that the universal, that is, implies the particular and is concretised in the singular or unique. They belong to a particular time and a particular place (Abelard and Heloise, Romeo and Juliet, Faust and Gretchen), and are thus more transition than identity. It concerns love that is not identical with itself and that cannot be consummated (or simply is that which cannot be consummated, to echo Søren Kierkegaard).¹⁶ Whereas Kant's subject stands contraposed to the world, Hegel's subject was the relationship between the subject and the world. Technocultural education follows Hegel's dialectic by regarding the interface as in permanent disequilibrium. The cyborg balances on a knife-edge in relationships that are impossible to reconcile – *pace* Hegel's history of philosophy. Now if the subject is the relationship, the philosopher need not look for a *tekhne* to forge it. No instrumentalist pedagogy is required to connect a self and a world that are already connected in interaction. The content of technocultural education can then be traced in *topoi* that are driven by their own *pathos* rather than by *tekhne* and are therefore close to the historical and existential situations in which people always find themselves.

While Hegel ended up as a philosopher of reconciliation deconstruction rejects stories with happy endings, whether of the philosophical, political or psychological kind. It's always making forays and operates elliptically rather than linearly, horizontally rather than vertically. It isn't happy with metaphors like the column and the obelisk, as symbols of masculine thrust and power, but prefers the cultural landscape and the journeying. But let me return to the "I" and to contexts in which the subject fails to hold on to itself and matter is open to no definitive reading. Examples of this are found in the reading of literary texts and in analyses of interaction on the Internet. I will take the literary tack here, because the text is the conventional locus of the subject in its multiplicity and metamorphoses.

Implacing the subject

In 1968, Roland Barthes published a little article called 'The Death of the Author'. In this he declared that the author is not the sovereign originator of his text, indeed that the text is in no authoritative meaning of the word his. In the written text, the author does not manage to be at one with herself but remains ambiguous. Is it the author in the text, the voice in the text or even the text itself which is the author? Barthes answers by saying that the text is composed of many scripts, taken from different contexts and different times. What unites the text, says Barthes, is not the author but the reader. The meaning of the text does not originate in the author but in the text's 'other', in the birth of the reader at the cost of the death of the author. All the same, the meaning of the text does not end with the personal reader. For the reader is in principle '... without history, biography, psychology; he is simply that *someone* who holds together in a single field all the traces by which the written text is constituted'.¹⁷ I take this to mean that the reader is the *locus* of reading, she is the placeholder of the multiple traces and interfaces that the text invokes. If the meaning of the text lies in its traces and links to other texts, the hope of understanding our own life as a coherent story from beginning to end will necessarily end in disappointment – we are not capable of writing our own biography. Barthes does not imply a constructivist subject as psychological instance and sovereign reader. By allowing the text to act as a location – *locus* – for the subject, the subject itself appears as difference. The subject is not a thing, indeed not even that which allows itself to be captured in a character description or in an autonomous role. This subject is free in a more radical understanding of the word than Skjervheim's subject, and offers therefore a deeper critique of reifying, objectivising pedagogy than he imagined. The system that attempts to discipline the postmodern subject meets the hacker; the absolute difference, the wild and untamed subject, the mutating virus circulating in the system as proof that the control of the Internet and the absolute disciplining of the subject is impossible to fulfil. If the postmodern subject is anything at all, it is not identity but difference and communication – the difference that makes a difference, and thus turns out as significant learning. This is, I suggest, the reality that computer technology has brought into the classroom. Hardly surprising that the school is being rocked in its very foundations, for this is a technology which in contrast to its predecessor introduces – and welcomes – the element of uncontrollability into teaching.

How then can we "grasp" the unstable subject? Barthes implicitly posed the question if the narrative gives the best description of interpretation and meaning. He chose to invoke the still photo as historical artefact, as in *Camera Lucida*, and the anecdote as literary expression. Walter Benjamins introduced the autobiographical vignette in *A Berlin Childhood Around 1900*, experiences described in brief paragraphs where the text appears in as condensed graphic form as the black and white photograph. They are descriptions of place rather than of time. Natalie Sarrautes does something similar in her autobiography *Childhood*, from 1984, where the entire text is made up of short scenes. A number of tableaux are presented but not interlinked. The effect is striking, for

the scant, bare text has the effect of a palimpsest by which we get in touch with human existence, nothing specifically psychological in it. Through the text, the reader's own past is awakened like a biographical subtext and melds with the author's voice – a meeting in the difference. The message steps out of the text, as it were, through the moments created in the confrontation between author and reader. The chapters, paragraphs, words, form interfaces that enable this meeting between author, text and reader. In Benjamin's childhood memoirs it is characteristically enough not the boy Walter but the place, the locality, the event in which he is implaced that is described, and in these *topoi* the subject plays a part without surrendering his freedom. Barthes described a subject without 'history, biography, psychology', only the 'someone' who holds the text together. At this point the educational theorist must apparently give up, for such a subject turns education into a shattered mirror in which no one can recognise themselves. It doesn't seem possible to talk of education in a postmodern sense, when the subject becomes a *khiasm* – an x – in the web of communication. Education predicates a person who can identify experiences and decisions as her own, and as an individual that project aims and has the skills and means to achieve them. Barthes' article can be read as a protest against closing the educational process in such violent ways. It is a provocation to some to imagine freedom not as something the teacher and the pupil shall create, but rather as what already is there to be found and realised. In Benjamin's and Sarraute's texts the place or *locus* is seen as the central element in the education of the individual. Their texts are images given permanence in the fixing bath of the biography. Although we are talking here of childhood memories written down in adulthood, they are dominated neither by the child's nor the author's "I", but by the scenes unfolding in the reading. The texts do not invite us to any kind of discussion of identity and are hence free of any psychologising. Strictly speaking, there is nothing to decide for oneself in these texts but there are many experiences to share. As the self is not identical with itself (Hegel) and not identical with its work of creation either (Barthes), we must turn to the other and to the *topoi* that describe communality, such as tolerance and caring, trust and hospitality.

Preparing the ground

The interface exists here and now. It takes form when time gives in to the moment, just as when someone falling to their death sees history flashing past in a brief second. The moment realises a maximum of historical meaning in the significant experience of transitions at a standstill. It is thus here, in the movement of the still image, in what Kierkegaard called 'the moment'¹⁸ and Benjamin called 'the now', that the topological first makes itself felt as the singular, unique and concrete. Here too lies the potential and power of transformation. The moment can dissolve in immediate action but it is not only a matter of a *carpe diem* motive. The singular can manifest itself in the chance meeting with a person, a picture or a text; or in personal insight, resolution and action – quite normal things. I shall not overemphasise the connection between the topological, the interface and the moment. But the interface is dependent on the place where the boundary can be drawn, and the moment requires a place where the *punctum* is put. It is the place, the boundary and the moment which make the presence of the interface possible.

I have described a mental and moral order that exists prior to the traditional subject-object-dichotomy that divides the world in two: the subject and its object. The topological view of education does not begin with the subject but with the *topoi* in which the subject is already implaced. Among the familiar clichés in the criticism of deconstruction is the dissolution or death of the subject. But deconstruction does not do away with the subject: because it does not begin with the subject, there is no subject to dissolve. Deconstruction is, of course, a critique of – and thereby an attempt to break down – the philosophy of subjectivism, but that does not mean killing off the subject. Deconstruction

has only abandoned the subject-object dichotomy which has given the subject such an elevated position in our traditional mental world. It seeks alternative descriptions of the subject and proposes therefore a different philosophical frame of reference from that in which Skjervheim used to argue. When the cyborg replaces the “I” as metaphor, the question of who I am lives on but in a less pretentious and absolute way. Deconstruction radically decenters the autonomous “I” of universal reason and action. The subject loses its hegemonic position, and here is the clue to a different pedagogy from the traditional; a pedagogy that places the responsible moral and political person subject into a different constellation of experience and learning.

The cyborg is a radically decentred subject. In a world of interfaces the cyborg is not identical with itself, at least not in the sense of *idem* or sameness. From this point of view, much of the current talk of identity is a sidetrack and not only to the private and internal. Talk of the individual in search of itself lingers in the myth of an original core self in search of its lost identity. But once more, if there is no centred “I” and no lost identity, there is no point in searching for it or creating it in education. The cyborg is interface in the sense of turned away from itself to the things in the world: it is a de-privatised subject open to the other. We have given up the postmodern scare of the fluid, hybrid subject for the more realistic vocabulary of distributed identities who live and strive with an identity that does not implode in the private individual of consumer society. The cyborg is present in the world. It is an unstable presence but nevertheless presence to itself and others. From the point of view of a topology, the postmodern person is always already implaced in the real or imaginary *loci* that grounds experience and action. The realisation of presence is found in the sense of where we are, who we are and what we ought to do as responsible persons.

The concept of a centred “I” and its construction belongs to the historical form of authority that we call the modern. It provides a horizontal model for upbringing and education. If we replace this philosophy with the horizontal, heterogeneous and singular perspective, we find ourselves in a topology with a different configuration of reality than that governed by the ideal of possible consensus between the parties in a discussion, or the prospect of possible reconciliation between conflicting perspectives. This new configuration does not replace consensus with disagreement or dissent but refers the question of truth and agreement to the interface as the permanent indefiniteness applying to the true, the right and the beautiful. In this indefiniteness there is no rejection of truth and morality and their discourse, but humility and openness towards that which is different. Modern life is straightforward in following intentions and objectives. But there is also a quiver of doubt and ambiguity of action. Technocultural education tries to translate old educational responsibilities into a language appropriate to the problems of the time of the Internet. It is grouped round common values but does not permit independence and freedom to be contingent on a perceived humanity, because the question of humanity vibrates constantly in the interface between the universal and the particular.

Technocultural education

As I now attempt to summarise what technocultural education may be, I shall do so in the form of statements requiring a further critical, concrete evaluation. Technocultural education gets by without the dualities that still plague pedagogy 100 years after Dewey tried to kill them off. It does not perceive the self as force, as Humboldt and Kant did, and does not view identity as individual character but as the promise or advent of the relationship between the self and the world. Humboldt wrote somewhere that the individual can be described as character; but individuality itself will always remain hidden, inexplicable and inconceivable.¹⁹ While character can be

described and recorded in the report book, individuality is the element that is unsusceptible to diagnosis or evaluation. What then is the connection between Humboldt's statement on indefinable individuality and the promise of technoculture, and hence between traditional and postmodern education? The connection is intact, broken, and transformed. Intact in the sense that he described individuality as expressiveness and freedom from the intervention of an authoritarian state; broken in the sense that Humboldt was theorising in a frame of reference both mentally and politically different from our own; and transformed in the sense that we have to propose the vocabulary for a new and different pedagogy. Humboldtian individuality is non-conceivable. At the same time we cannot but perceive the individual as a person with a character, qualities and abilities. It all seems destructively paradoxical, for in Humboldt's perspective we are doomed to believe in an individuality that is not susceptible to description, and to doubt the character that is appears in our description and evaluation of others. But this paradox – individuality as the interface between description and non-description – is precisely where postmodern education has its opening and future.

Hegel's dialectic as the restlessness of position and destruction of closure amounts to the same. In his introduction to the *Phenomenology of Spirit* he refers to experience as the despair that self-awareness goes through. Before Søren Kierkegaard, he described the existential status of the interface as perpetual movement and transition. This observation rejects pedagogy's idea of the self and the world as stable elements in education. The relationship between them exists as interface, located in incomplete *topoi* which must therefore be constantly re-addressed: from the more general What is true? and What is just? to How can we cope with existence? How can we save freedom? How can we conceive of a different pedagogy? The state of permanent transition discussed here is the freedom of the self from the self and others, that which prevents the self from being reduced to an object to either itself or others. If that is so, then freedom cannot be something the subject constructs but rather the restlessness that drives us to attain freedom. It is then possible to conceive of freedom as its own origin, and of despair and suffering in the original meaning of the word as *pathos* or movement. The debate on education is the place or *topos* where education seeks to arrive at an understanding of its own activity. In his philosophical essays, Skjervheim urged this debate forward in inimitable fashion. He proposed that the idea and potential of education be reconciled with its actual conditions and possibilities, he had the sense of the place and presence of liberal education. He perceived the signs of the times but also wished to convince educators of the intention behind talking of freedom, recognition and respect for the other in terms of his philosophical principles. This intention is, I propose, reaffirmed in the idea of the hypertransitional.

The cyborg is the metaphor for the agents in the electronic world. The metaphor offers no pat answers to the current problems of education; its job is to usher in new perspectives and another vocabulary for pedagogy. Humboldt wouldn't have felt at ease with the cyborg; he lived with the classical metaphors. But in its own way, the Internet can contribute to Humboldt's concept of the spiritual self-realisation of the individual, if in versions that would naturally surprise him. The Web hasn't given us a new world but has quite clearly expanded the old one. The book and reading still give us the most complex and intense interface we know of. But the Internet has partly created new forms of community by rapid world-wide communication. The "life on the screen" has made an inspired contribution to the depiction of human beings as distributed and multifaceted identities in a communicative world which encompass differences of nationality, colour or ethnicity. In contrast to such a 'bright' utopian picture, there is, of course, the dystopia of the Internet as the arena for power, surveillance and suppression. In the gaps between these extremes, the Internet has transformed the library into a hypertext, that is, into a virtually instant reservoir of information configured by the Web and made accessible by search engines. This has contributed to communicative

noise, to a world of information garbage with no sorting mechanism for determining what should be dumped and what recycled. The Internet has exacerbated the problem of what is worth knowing and what worth doing in education. When there is no curricular canon that everyone can agree on and hardly any didactic method capable of systemising and communicating that which is worth knowing, there is as far as I can see only one practicable way to follow, and that is a combination of interpretive and problem- and project-oriented efforts. The postmodern cyborg is a “cyberonaut” or helmsman and must himself help to navigate through these new pedagogical waters. The educational tradition remains with us but how it is to be steered is something we must find out as we go along. For the future of projected ideals no longer shine bright in the pedagogical skies.

Teletechnology challenges in the first instance an over-managed school system because both information and authority are more distributed than before; that is, knowledge from outside and below now competes even more fiercely with authority from above. In the second place, the Internet plays a part in the loss of the teacher’s natural authority as the source of information, because the Internet always knows more than both teachers and pupils. This is not a new problem, of course. The teacher’s power of definition began to be eroded when the Bible began to give way to books, newspapers and the TV. In the third place, hypertext means that the school curriculum is losing its authority as an accepted canon or guidelines for teaching. The new literacy is bound to live with the paradox that there is no canon, therefore we need one! Hypertext is a system of nodes or junctions, links and networks, with the Web as the best example. Hypertext, unlike the Tree of Knowledge, does not grow upwards but is instead rhizomatic²⁰, spreading by sending out new shoots without drawing energy from a main source. It has no centre, establishes no hierarchy and has no authentic story to tell except that created by the participants themselves. In other words, it radicalises Barthes’ assertions in ‘The Death of the Author’: anyone who nowadays enters the Net contributes to forming his or her own study scheme. It is well nigh impossible to teach in accordance with the canon of the ‘great books’ tradition when teachers and pupils work with a wide variety of media, sources, and textual collages. A curriculum with its hierarchical structure and teacher’s authority is not appropriate to culture of the hypertext and the search engine. Last but not least, distributed learning means that the class gradually ceases to exist as the natural social community. Pupils become knowledge nomads working together in groups formed in relation to the specific assignments, the library and the Net, at times appropriate to the requirements of their project work. In short, the school becomes more interactive and pupils more inter-individualised in the school landscape exemplified by the modern media station. It is not enough to take sides for or against the future of computer technology. We are bound to take a stand in relation to its promise and possibilities.

Our technocultural education project takes postmodern ambiguity as an inspiration to look afresh at the modern educational paradigm. The neo-humanistic classicalists may be consulted for their opinion but they cannot answer our questions. It wasn’t the Internet that Humboldt had in mind when he wrote his ‘school plans’ of 1809. But his concept of the university is readily reconcilable with Dewey’s ideas of an experimenting community of teachers and students in which the ‘investigative method’ was to be used to transform doubt into belief. However, the technocultural approach to education does not relate, as Dewey did, to one single method. Technocultural education finds its sources in the interfaces of a topology of knowledge. Education does not, as J. G. Fichte would have it, put the “I” first and then add the world. Education helps to locate and grasp the interface that has replaced Dewey’s “problem”. Interfaces are configured in a topology that encompasses intention and execution, theory and experiment, map and terrain. Topology locates – as the name clearly indicates – the common human *topoi* that appear in literature, in the cafés and at the dinner table. *Topoi* or topics are systemised in museum

collections, school curricula and university research programmes. Technocultural education, like traditional education, should formulate a basic concept of education for humanity, exemplified in the idea of the cultivated human being. The task is to transform education's classical triad – the self, the world its transformation – into interfaces for subject as distributed and situated. Technocultural education retains the ideals of humanity, justice and freedom, not as 'objective' values but as questions, interpretations, and conjoint action. Technoculture is the culture of the meeting place. Education is realised in the meeting places where people live mind to mind in relation to the world and face to face with each other.

References

- Arendt, Hannah (1958): *The Human Condition*. Chicago, Chicago University Press.
- Barthes, Roland (1968/1977): The Death of the Author. In Roland Barthes: *Image, Music, Text*. London, Fontana Press.
- Bateson, Gregory (1980): *Mind and Nature. A Necessary Unity*. Glasgow, Fontana.
- Biesta, Gert J. J. (2001): Preparing for the incalculable. Deconstruction, justice and the question of education. In Biesta, Gert J. J. and Egéa-Kuehne, Denise (eds): *Derrida & Education*. London, Routledge.
- Dale, Erling Lars (1992): *Pedagogikk og samfunnsforandring 2*. Oslo, Ad Notam Gyldendal.
- Deleuze, Gilles and Guattari, Félix (1983): *On the Line*. New York, Semiotext(e).
- Derrida, Jacques (1982): *Margins of Philosophy*. Brighton, Harvester Press.
- Dewey, John (1916): *Democracy and Education*. N.Y, The Free Press.
- Glaserfeld, Ernst von (1995): A Constructivist Approach to Teaching. In Leslie P. Steffe and Jerry Gale (eds): *Constructivism in Education*. New Jersey, Lawrence Erlbaum.
- Haraway, Donna (1985): A Manifesto for Cyborgs: Science, Technology and Socialist Feminism in the 1980s. In *Social Review* 80.
- Hegel, Georg Wilhelm Friedrich (1817/1970): *Encyclopädie der philosophischen Wissenschaften III*:81. In Werke Bd 8. FF.a.M, Suhrkamp.
- Hegel, Georg Wilhelm Friedrich (1807/1999): *Åndens fenomenologi*. Oslo, Pax Forlag.
- Hellesnes, Jon (1975): *Sosialisering og teknokrati*. Oslo, Gyldendal.
- Hellesnes, Jon (1992): Ein utdana mann og eit dana menneske. In Dale, Erling Lars (ed): *Pedagogisk filosofi*. Oslo, Ad Notam Gyldendal.
- Hellesnes, Jon (1999): På veg mot ein tilstand utan education. In Andersen, Øyvind (ed): *Education – humanitas – paideia*. Oslo, Sypress forlag.
- Honneth, Axel (1992): *Kampf um Anerkennung. Zur moralischen Grammatikk sozialer Konflikte*. FF.a.M., Suhrkamp.
- Honneth, Axel (2001): *Leiden an Unbestimmtheit*. Stuttgart, Reclam.
- Humboldt, Wilhelm von (1980): Theorie der Bildung des Menschen. In *Wilhelm von Humboldt Werke in fünf Bänden*. Stuttgart, Cotta Bd In:235.
- Humboldt, Wilhelm von (2000): Theory of Bildung. In Westbury, In Hopmann, P. and Riquarts, K. (eds): *Teaching as Reflective Practice*. London, Lawrence Erlbaum.
- Humboldt, Wilhelm von: Latium und Hellas oder Betrachtungen über das classische Alterthum. In *Humboldt Werke in fünf Bänden*. Cotta, Stuttgart, Bd II:27.
- Kant, Immanuel (1781/1968): Kritik der reinen Vernunft. In Theorie-Werkausgabe Immanuel Kant in 12 Bänden, Bd III. FF.a.M, Suhrkamp.
- Kierkegaard, Søren (1962): *Sygdommen til Døden*. In Samlede Værker Bd 15. København, Gyldendal.
- Kierkegaard, Søren (1962): *Gentagelsen*. In Samlede Værker Bd 5. København, Gyldendal.
- Løvlie, Lars (1989): John Dewey – erfaring som handling. In Thuen Harald and Vaage, Sveinung: *Oppdragelse til det moderne*. Oslo, Universitetsforlaget.

- Løvlie, Lars (2002): The Promise of *Bildung*. In Løvlie, L./ Mortensen, K. P./Nordenbo, P. E. (eds): *Educating Humanity: Bildung in postmodernity*. Journal of Philosophy of Education, Vol 36, Special Issue 3, Autumn 2002.
- Nyrnes, Aslaug (1977): Retorikk som didaktikk. Didaktikkens allmenne topologi i *Moralske Tanker* av Ludvig Holberg. In *Rhetorica Scandinavica* 2/1977.
- Skjervheim, Hans (1992): Det instrumentalistiske mistaket. In *Filosofi og dømmekraft*. Oslo, Universitetsforlaget.
- Skjervheim, Hans (1992): *Filosofi og dømmekraft*. Oslo, Universitetsforlaget.
- Trippestad, Tom Are (2003): Mistillitens sosiologi. In Slagstad, Rune/Korsgaard, Ove/Løvlie, Lars (eds): *Dannelsens forvandlinger*. Oslo, Pax Forlag.
- Wimmer, Michael (2001): The gift of *Bildung*. Reflections on the relationship between singularity and justice in the concept of *Bildung*. In Biesta, Gert J. J. and Egéa-Kuehne, Denise (eds): *Derrida & Education*. Routledge, London.

¹ Derrida describes this as *différance* in his article of the same title in Derrida, Jacques (1982): *Margins of Philosophy*. Brighton, Harvester Press, p 25f:

'There is no essence of *différance*; it (is) that which not only could never be appropriated in the *as such* of its name or its appearing, but also that which threatens the authority of the *as such* in general, of the presence of the thing itself in its presence. That there is not a proper essence of *différance* at this point, implies that there is neither a Being nor truth of the play of writing such as it engages *différance*.'

² Haraway, Donna: A Manifesto for Cyborgs: Science, Technology and Socialist Feminism in the 1980s. In *Social Review* 80, 1985. Following Haraway the publication of manifestos has gained in popularity. Jaron Lanier presented One-'Half of a Manifesto' in *Wired*, December 2000, and David Gelernter presented 'The Second Coming – A Manifesto' on www.edge.org, downloaded in February 2001, both contributing to an interesting discussion on the future of cyberspace.

³ Dewey, John (1916): *Democracy and Education*. N.Y, The Free Press, p. 132 See also Løvlie, Lars: 'John Dewey – erfaring som handling'. In Thuen Harald/Vaage, Sveinung (1989): *Oppdragelse til det moderne*. Oslo, Universitetsforlaget.

⁴ See Bateson, Gregory (1980): *Mind and Nature. A Necessary Unity*. Glasgow, Fontana, p. 110ff. There Gregory Bateson says that difference is not content. Difference has no dimensions. Take for example his illustration of the chalk mark. The white mark is put on the blackboard and they can both be localised. But the difference between them cannot be localised either to the mark or the board. The difference 'is *qualitative* and not *quantitative*'. The notion of the dimensionless difference radicalises Dewey's idea of action to the point where communication, according to Bateson, consists 'of differences that make a difference'.

⁵ Wilhelm von Humboldt (1980): Theorie der Bildung des Menschen. In *Wilhelm von Humboldt Werke in fünf Bänden*. Stuttgart, Cotta Bd In:235. See also Wilhelm von Humboldt (2000): Theory of Bildung. In Westbury, In/Hopmann, P./Riquarts, K. (eds): *Teaching as Reflective Practice*. Lawrence Erlbaum, London, p. 58. In the same anthology there is a good introduction to Humboldt by Lüth, Christoph: On Wilhelm von Humboldt's Theory of Bildung.

⁶ Skjervheim Hans (1992): Det instrumentalistiske mistaket. In *Filosofi og dømmekraft*. Oslo, Universitetsforlaget. Se også Hellesnes, Jon (1975): *Sosialisering og teknokrati*. Oslo, Gyldendal. Also by Hellesnes: Ein utdana mann og eit dana menneske. In Dale, Erling Lars red. (1992): *Pedagogisk filosofi*. Oslo, Ad Notam Gyldendal, also: På veg mot ein tilstand utan education. In Andersen, Øyvind, red. (1999): *Education – humanitas – paideia*. Oslo, Syppress forlag. See also Erling Lars Dale (1992): *Pedagogikk og samfunnsforandring 2*. Ad Notam Gyldendal, Oslo.

⁷ Skjervheim is the best counterexample to his own point of view. He fought an explicit battle against rhetoric at the same time as he implicitly practised the New Norwegian essay as rhetorical genre. He renewed the philosophical essay in the interface between argumentation and rhetoric. He always wrote in the form of central *topoi*, in which he was the topologist *par excellence*. The essays entitled 'Deltakar og tilskodar', 'Det instrumentalistiske mistaket' and 'Det liberale dilemma' are examples of this.

⁸ Nyrnes, Aslaug: Retorikk som didaktikk. Didaktikkens allmenne topologi i *Moralske Tanker* av Ludvig Holberg. In *Rhetorica Scandinavica* 2/1977. Conversations with Nyrnes have considerably reinforced my understanding of topology as pedagogical form.

⁹ That Plato's dialogues in themselves are examples of rhetorical writing is something that Skjervheim took account of in a late essay, by distinguishing between 'differentiated' and 'dedifferentiated' rhetoric. The former takes into account the difference between to persuade and to convince and makes a commitment to the better argument in a truth-seeking discourse. The latter is simply suasive rhetoric, i.e. without making any pretension to truth and reason. The essay is entitled 'Invitasjon til (kulturelt (?) sjølv-mord?', is as always blessedly fresh in style and attacks French deconstruction, particularly Jacques Derrida. Derrida's conceptual universe opens dedifferentiated and dangerous waters. Like Odysseus we must tie ourselves firmly to the mast to avoid the perils ahead: '[e]in kan bli førd av garde inn in ei privat forvilling, in verste fall av psykopatologisk slag'. See Skjervheim, Hans (1992): *Filosofi og dømmekraft*. Oslo, Universitetsforlaget, p 52. For an entirely different and welcome application of deconstruction to education, see Gert J. J. Biesta: 'Preparing for the incalculable'. Deconstruction, justice and the question of education; and Michael Wimmer: The gift of *Bildung*. Reflections on the relationship between singularity and justice in the concept of *Bildung*. Both in Biesta, Gert J. J./Egée-Kuehne, Denise, eds (2001): *Derrida & Education*. Routledge, London. Wimmer's essay was originally published in German in Masschelein, J./Wimmer, M. (1996): *Alterität, Pluralität, Gerechtigkeit. Randgänge der Pädagogik*. Augustin, Academia. See also Lars Løvlie: 'The Promise of *Bildung*'. In Løvlie, L./ Mortensen, K. P./Nordenbo, P. E. (ed): *Educating Humanity: Bildung in postmodernity*. Journal of Philosophy of Education, Vol 36, Special Issue 3, Autumn 2002.

¹⁰ The Hegelian recognition topos is addressed in Honneth, Axel (1992): *Kampf um Anerkennung. Zur moralischen Grammatik sozialer Konflikte*. FF.a.M., Suhrkamp (also in English); the topic is pursued further in Honneth, Axel (2001): *Leiden an Unbestimmtheit*. Stuttgart. Reclam.

¹¹ See Arendt, Hannah (1958): *The Human Condition*. Chicago. Chicago University Press, p 234.

¹² Kant, Immanuel (1781/1968): Kritik der reinen Vernunft, p. 136. In Theorie-Werkausgabe Immanuel Kant in 12 Bänden, Bd III. FF.a.M, Suhrkamp.

¹³ The constructionist von Glasersfeld is indebted to Kant when he asserts that knowledge does not represent an independent world but 'what we can do in our experiential world, the fortunate way of treating objects we call physical and the fortunate way of thinking in abstract concepts'. But he confidently skips the important distinction between the constitution of recognition on the one side and construction on the other. He thus contributes to the widespread misunderstanding that the world is a construction and that we create the world in man's image. This not only gives God a run for His money but is also to misunderstand how experience lives historically through us as much as we live through it. See Glasersfeld, Ernst von: A Constructivist Approach to Teaching. In Leslie P. Steffe/Jerry Gale, ed (1995): *Constructivism in Education*. Lawrence Erlbaum, New Jersey, p. 7.

¹⁴ Hegel, Georg Wilhelm Friedrich (1817/1970): *Encyclopädie der philosophischen Wissenschaften III*:81. In Werke Bd 8. FF.a.M, Suhrkamp, §213 Zusatz

¹⁵ Hegel, Georg Wilhelm Friedrich (1807/1999): *Åndens fenomenologi*. Oslo, Pax forlag.

¹⁶ Søren Kierkegaard (1812 –1855) offers us another approach to the interface through existential philosophy. He opens *Sygdommen til døden* by saying that the self is a relationship that relates to itself, or that it is in the relationship that it relates to itself. Here he anticipates deconstruction by describing the self not as a centre or body/instance in itself but as the divide in the relationship to itself and therefore as 'despair'. Kierkegaard, Søren (1962): *Sygdommen til Døden*. In Samlede Værker Bd 15. København. Gyldendal, p 73.

¹⁷ Roland Barthes: The Death of the Author, p 148. In Roland Barthes (1968/1977): *Image, Music, Text*. London, Fontana Press.

¹⁸ Kierkegaard took up this theme in *Repetition*. Repetition has the sacred truth of the moment, '[Ø]yeblikkets salige Sikkerhed', he says. But repetition is not to remember or

repeat the past, for it is what is remembered. Repetition instead engages the past: 'Gjentagelse og Erindring er den samme Bevægelse, kun in modsat Retning; thi hvad der erindres, har været, gjentages baglænds; hvorimod den egentlige Gjentagelse erindres forlænds'.¹⁸ (Kierkegaard 5:115). Repetition is Kierkegaard's term for 'here and now' as a place in time, that which appears to us as event/action. Repetition is not realised in the subject but in the topology 'forlænds – baglænds', i.e. forwards and backwards in *topos*. It is both return and arrival, that which manifests itself or is born her and now. It is before or ahead of the answer to the question 'What shall I do at this moment?' It isn't a matter of anyone's subjective freedom of will. We are now closer to the idea of freedom as the coming of the new. 'Gjentagelsens Dialektik er let; thi det, der gjentages, har været, ellers kunne det ikke gjentages, men netop det, at det har været, gør gjentagelsen til det Nye.' In Kierkegaard, Søren (1962): *Gentagelsen*. In *Samlede Værker Bd 5*. København. Gyldendal, p 131.

¹⁹ Wilhelm von Humboldt: *Latium und Hellas oder Betrachtungen über das classische Alterthum*. In *Humboldt Werke in fünf Bänden*. Cotta, Stuttgart, Bd II:27.

²⁰ With Gilles Deleuze and Félix Guattari the *rhizome* can be used as a metaphor for what I have called topology. The word suggests a free-growing root system with no stem, the wood anemone's roots for example, and replaces the tree and flowering – the traditional educational metaphors. The rhizome emphasises nonlinear connection and evades weeding: 'the rhizome is anti-genealogy', write the two authors, in Deleuze, Gilles/Guattari, Félix (1983): *On the Line*. New York, Semiotext(e), p 21.