

Wordcount: 5,200 (appx.)

Vision and "the training of perception:" McLuhan's Medienpädagogik

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Abstract

Next to media themselves, pedagogy or education --configured specifically as a "training the senses" (McLuhan & Leonard, 1967) or "sensuous education" (McLuhan, 1964)-- is one of the most prominent themes in McLuhan's corpus. It is the focus of numerous articles published throughout his career and of two significant albeit relatively obscure monographs that book-end his work on electronic media. As Janine Marchessault (2004) says, McLuhan articulates "a specifically argued pedagogical enterprise" that is central to his "aesthetically-based, highly performative and historically grounded... contribution to the study of media" (xi, 10, 34). In this paper, I focus on this pedagogical enterprise specifically as it develops from McLuhan's unusual understanding of the senses --including his critique of the dominance of the visual in our culture. By reconstructing McLuhan's understanding of senses and their relationship to education, I show how McLuhan's contribution to media is aesthetically, historically and performatively charged, and I make the case for the ongoing currency of his pedagogical enterprise today.

Media and the Senses

The first of McLuhan's two book-length texts on education and the media is his 1960 "Report on Project in Understanding New Media," commissioned by the National Association of Educational Broadcasters. This text provides material for *Understanding Media: the Extensions of Man* as well as for McLuhan's second and final book on media education. It is also in this text that McLuhan presents some of the frankest formulations of his pedagogical program and also of his media theory. Early in this report, McLuhan makes the important distinction between the sensory *impressions* of media on the one hand, and their sensory *effects*, on the other:

Early in 1960 it dawned on me that the sensory *impression*, proffered by a medium like movie or radio, was not the sensory *effect* obtained. Radio, for example, has an intense visual effect on listeners. But then there is the telephone which also proffers an auditory impression, but has no visual effect. In the same way television is watched but has a very different effect from movies. (McLuhan, 1960, p. 4; emphasis in original)

The effects of media, according to McLuhan, are registered primarily on the human senses. But this effect is not simply an *impression* on the sense(s) to which they directly appeal. Instead, a given medium's *effects* register on different sense altogether, and it is this *displaced* sensory impact that is important. Thus, for McLuhan, a medium like television is primarily tactile in its

effect, rather than being associated with the senses of sight and sound (1960). And a printed image can have its principle effect not on vision, but simultaneously on the registers of hearing and touch. It is worth noting that McLuhan exploits this multisensory effect of media particularly in texts developed in collaboration with Quentin Fiore (*The Medium is the Massage* and *War and Peace in the Global Village*). With their full-page photographic illustrations, and the use of juxtaposed and unconventional typographical arrangements, these books can be seen to represent pictorial and typographical “performances” deliberately intended to play upon readers’ visual senses –ultimately to produce effects extending far beyond them. In particular, McLuhan saw his use of images and photographs as having the potential to produce powerful *tactile* effects. This is expressed in the title of one of these texts, *The Medium is the Massage*, which presents the playful substitution of the emphatically tactile process of massage or bodily manipulation with the much more abstract notion of “message” (as in the more familiar claim that “the medium is the message”).

McLuhan understood the senses as constituting a kind of synaesthetic system, a “five sense sensorium” (1961), in which individual senses are in intricate interplay. McLuhan often speaks of the impressions of one sense being “translated” readily into another, of “sight translated into sound and sound [translated] into movement, and taste and smell” (1964, p. 60). So the effects of media on the senses are manifest through the response of an *interdependent group* or an *interconnected system* of the senses:

...any medium which singles out one sense, writing or radio for example, by that very fact causes an exceptional disturbance among the other senses... We may be forced, in the interests of human equilibrium, to suppress various media as radio or movies for long period of time, or until the social organism is in a state to sustain such violent lopsided stimulus. (1960, p. 9)

Any question of the use of or dependency on one sense by a medium is always also a question of its reciprocity with all of the others in the sensorium.

In his 1964 text *Understanding Media: The Extensions of Man*, McLuhan later subjected the terms “media” and “senses” to a kind of synecdochic substitution. Both are expanded to become much broader in signification: The senses become the nervous system, the body, or “man” as a whole, and media become all devices and technologies –from the wheel to the computer. The latter are seen, moreover, as the externalization or extension of the former, with the wheel being an extension of the foot, the book being an extension of the eye, and clothing, extensions of the skin (1967). This allows McLuhan to claim, for example, that “Our new electric technology now extends the instant processing of knowledge by interrelation that has long occurred within our central nervous system” (1964, p. 249). It also allows him to explain that

the personal and social consequences of any medium—that is, of any extension of ourselves—result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology. (1964, p. 7)

In their effects on the senses, in other words, media have the effect of amplifying some and attenuating others. In being thus extended and amplified, the senses produce still other effects that reach to all manner of human affairs.

Up to this point, McLuhan’s assertions about media and the senses are not incompatible with the terms of an analytic, mechanistic and otherwise positivist vocabulary. Indeed, as his references, above, to “nervous system,” “organism” “processing” and “stimulus” illustrate, McLuhan himself does not hesitate to borrow from such vocabularies. However, it is important to note that these borrowings are metaphorical or allusive rather than substantive or constitutive of McLuhan’s conceptions. They are not expressive of a serious commitment to the principles, for example, of the British empiricists, Skinnerian behaviourists or Chomskyite cognitivists. McLuhan’s work instead exhibits a clear antipathy to these dominant Anglo-American constructs.

It is necessary to make this clear in order to understand the next major point in McLuhan’s conception of the relationship of media and the senses: Namely, the counterintuitive claim that the (im)balance or (dis)equilibrium of the senses are constitutive of rationality, intelligence or even of consciousness itself –an idea that finds no place in empiricism, behaviorism or cognitivism. In making this point, McLuhan goes well outside of the mainstream of a philosophical tradition in which the senses are regularly subsumed well below the synthetic, interpretive powers of the mind. McLuhan instead relies explicitly on the Thomistic and Aristotelian notions of *ratio* and *sensus communis*. Both are explicated below.

Aquinas endows the word “ratio” with an ambiguity that is important for McLuhan. One significant passage in this regard begins with the assertion that “...beautiful things are those which please when seen. Hence beauty consists in due proportion...” (Aquinas, 1952, p. 26). In *The Gutenberg Galaxy*, McLuhan continues quoting this same passage as follows: “The senses delight in things duly proportioned *as in something akin to them, for the sense, too, is a kind of reason as is every cognitive power*” (1962, 107). Beauty for Aquinas is a matter of due proportion. This proportionality holds because the senses delight in things which reflect their own proportionality. And this delight, in turn, reflects what is rational, since the senses are as much a kind of reason as any cognitive faculty. Proportion and balance as aesthetic qualities are first transferred by Aquinas’s analogy to the senses, and the balance or equilibrium of the senses, in turn, is seen as constitutive of rationality, intelligence and consciousness.

Starting with Aristotle, *sensus communis* develops from a distinction between perceptions unique to specific senses (colour to sight, sound to hearing, flavor to taste), and perceptions involving a plurality of senses. These include “movement, rest, number, figure, magnitude[, which] are not peculiar to any one sense, but are common to all” (1941, p. 567).



Fig. 1: Comenius' explanation of *sensus communis* from *Orbis Sensualium Pictus* (1659):
 "The common sense under the forepart of the head / comprehendeth things taken from the
 outward Senses."

According to Aristotle, *sensus communis* also refers to the fact that our perception or awareness of a given sense does not occur through that sense alone, but arises through a combination of perceptions from another sense. "Since we cannot perceive that we see and hear, it must be either by sight itself or by some other sense." That other sense, Aristotle implies, is common sense, a combination or meeting up of the senses. The result, moreover, is the unified, integral image entailed in the perception of elements such as movement, rest, number or magnitude. As is explained and illustrated in Comenius' *Orbis Sensualium Pictus* (Figure 1), *sensus communis* represents an "inward sense," which combines and thus comprehends those things outwardly perceived. As McLuhan explains, from "Aristotle onward, the traditional function of the *sensus communis* is to translate each sense into the other senses, so that a unified, integral image is offered at all times to the mind." Thus, in the posthumously published *Global Village* (1989), McLuhan explains that

Consciousness... may be thought of as a projection to the outside of an inner synesthesia, correspondingly generally with that ancient definition of common sense. Common sense is that peculiar human power of translating one kind of experience of one sense into all other senses and presenting that result as a unified image of the

mind. Erasmus and Moore said that a unified ratio among the senses was a mark of *rationality*. (McLuhan & Power 94, emphasis in original)

To shed further light on this unconventional intuition –and to illustrate its pivotal role in McLuhan’s thought—it is worth citing a few examples, arranged chronologically. The shift from sanguine pronouncements through to a much more guarded optimism to more alarmist sentiments is rather pronounced in McLuhan’s thinking. For example, in a 1956 article titled *New Media in Arts Education* (1956), McLuhan speaks of the possibility of an orchestration of media and the senses.

The stage of development of the media of communication today is such that it invites a reassembly of our senses of perception. The mechanical media have helped us to rediscover [means for the] orchestration of our sense experience. And this discovery has in turn carried us back to the kind of integral awareness possessed by primeval man. (p. 17)

Here it is the mechanical media of print and graphical reproduction that are bringing the senses into what an “orchestration” that McLuhan describes as both primeval and integral. And this provides an opportunity for their deliberate use in an educational “reassembly” of the senses.

These ideas achieve more complete articulation in McLuhan’s *Report on Understanding Media* (1960), in which he describes the sensory effects of media somewhat less positively: “It is the ratio among our senses,” he explains, “which is violently disturbed by media technology. And any upset in our sense-ratios alters the matrix of thought and concept and value” (9).

The aesthetic principles of proportion, balance and ratio are transferred by McLuhan through means of Aristotelian analogy to the senses. From there, they are linked to “thought and concept and value.” But by the time this set of ideas is re-articulated in the *Gutenberg Galaxy* and in *Understanding Media* later in the 60s, this set of assertions acquires a more ominous inflection. The violent disruption of human sense ratio is no longer a matter of academic indifference, but becomes a matter of grave normative concern:

Our technologies, like our private senses, now demand an interplay and ratio that makes rational co-existence possible... A ratio of interplay among these extensions of our human functions is now as necessary collectively as it has always been for our private and personal rationality in terms of our private senses or ‘wits’ as they were once called. (1962, p. 5)

In *Understanding Media*, the imbalance of the senses that would rob us of our “wits” is described in terms of hallucination, with McLuhan warning of the “endless power of men to hypnotize themselves into unawareness in the presence of challenge” (1964, p. 70). What begins in the aesthetic is taken, by means of epistemology and rationality, to the realm of the ethical or normative.

Training the Senses

In the first part of this paper, I recapitulated four basic points from McLuhan related to the senses:

1. A medium has its effects on a sense *other* than those with which it communicates.
2. This effect is registered on all senses as an interdependent *sensorium*, in terms of their equilibrium or ratio.
3. This *ratio* is constitutive of *rationality* or even consciousness.
4. An imbalance of the senses induced by media can deprive one of rationality or consciousness.

In this second part of this paper, I focus on the results for education and training of the normative emphasis implied in the fourth and final point above.

McLuhan's warnings about the dangers of losing our wits, our rationality or even our consciousness ensure a particularly important place for both pedagogy and praxis in his thought. If the intensification of some media can affect the senses in such a way as to alter "the matrix of thought and concept and value," then it is precisely a vigorous "training" of the senses and of perception that is urgently needed to re-establish sensual interplay and unity. The "educational task," as McLuhan explains, "is to provide... the basic tools of perception" (source). This task, he asserts elsewhere, is to occur through the provision of "sensory situations for the training of perception" (McLuhan & Parker 1968), resulting in a kind of education that is "more concerned with *training the senses* and perceptions than with stuffing brains" (McLuhan & Leonard, 1967, 24; italics added).

McLuhan does not care to distinguish between these different, sensuous, instructional processes. Whether he refers to the training of the senses or perceptions, the educational provision of tools of perception, or education as a specifically "sensuous" affair his meaning does not vary. With a few notable exceptions, McLuhan was not concerned with the lexicon and distinctions entailed in education as a specialization of either theory or practice. Moreover, he sees the senses or "man" overall as being formed through the total environment, and not through narrowly defined pedagogical techniques confined to the classroom. Instead of looking to the classroom, McLuhan emphasized the role of the larger urban environment and the increasingly interconnected world, the global village, or using another synecdoche, "the city." Drawing on his synecdochic vocabulary of extension and externalization, McLuhan writes to Jacqueline Tyrwhitt about education, the *sensus communis* and the city as follows:

Now that by electricity we have externalized *all* of our senses, we are in the desperate position of not having any *sensus communis*. Prior to electricity, the city was the *sensus communis* for such specialized and externalized senses as technology had developed. The city performs that function for the scattered and distracted senses, and spaces and times, of agrarian cultures. (McLuhan 1988, pp. 277-278)

Sensus communis itself is externalized to the city or cosmopolitan environment that is responsible for organizing and balancing the senses. McLuhan makes it clear that electronics are creating a global village, but indicates that this might imply more a kind of universal parochialism than increased cosmopolitanism. For he goes on to suggest to Tyrwhitt that there is still a need for a cosmopolitan centre to properly direct and focus the senses:

Today with electronics we have discovered that we live in a global village, and the job is to create a global *city*, as center for the village margins. Perhaps the city needed to coordinate and concert the distracted sense programs of our global village will have to be built by computers in the way in which a big airport has to coordinate multiple flights. (McLuhan pp. 277-278)

Despite the fact that it applies to all elements of the environment, education, formation and training of the senses are still seen by McLuhan as benefitting from coordinated and concerted efforts. And such efforts, McLuhan further implies, can only be provided through specialization and institutional contextualization (possibly by computers coordinating the social environment as if from a control tower). Perhaps that is why McLuhan was willing, at some points, to allow that some aspects of this training of perception might actually “belong in the classroom” (McLuhan, McLuhan, & Huchon, 165) –or at least in variations on the classroom environment (McLuhan & Leonard, 1967). In fact, McLuhan’s most detailed outline for pedagogical praxis is provided in a book deliberately designed for use in the classroom --a co-authored textbook developed specifically for highschool students, titled *The City as Classroom: Understanding Language and Media*.

This text is almost entirely performative or praxis-oriented. In fact, it can be said to practice, through questions, exercises and imperatives, many aspects of McLuhan’s life-long mediatic and pedagogical enterprise. Appropriately, it begins with a direct address to its student readers:

Let us begin by wondering just what you are doing sitting there at your desk. Here [in the pages that follow] are some questions for you to explore... The questions and experiments you will find in this book are all concerned with important, relatively unexplored areas of our social environment. The research you choose to do will be important and original. (1)

The book presents dozens of “questions and experiments,” getting students to manipulate and explore a wide range of characteristics of their social environments –focusing specifically on the environments presented by the classroom, the community and also by a wide range of contemporary mediatic forms, from the magazine to video recording technologies.

One of the first sets of research questions and experiments in the book focuses on a relatively simple gestaltist diagram (figure 1). McLuhan and his co-authors use this particular, diagrammatic, performative “sensory situation for the training of perception” as a way of getting students to work with the interrelationship of figure and ground:

Some curious aspects of *figure/ground* relationships can be seen here. First, note that the outline of the one image [the dogs] is also the outline of the other [the telephone].

This is always true of structural relations: it is just as true of the drawing as *figure* in relation to the page as *ground*. Secondly, because of the shared outline, *figure* and *ground* create and define each other... the parts are reciprocal. Thirdly, contrary to a common misconception, both *figures* can be seen simultaneously and held in the visual field. This simultaneous perception is, at first, easier for some people than for others, because it requires a certain amount of 'un-learning'. (p. 10)

The training of perception that McLuhan and his co-authors are performing involves first of all a recognition of the binary multistability of figure and ground –the apparently zero sum game between one visual configuration with another. But more important is McLuhan's encouragement for students to engage in what he and his co-authors refer to as the task of “un-learning” that is required for the “simultaneous perception [of] figure and ground” (p. 10) They actually suggest a number of strategies for students to achieve this simultaneous perception, including “squinting” at the image, looking at it with one eye closed, and even holding the page up to the light. The text justifies its emphasis on this effect by telling their student readers that the “interplay” between figure and ground, when simultaneously perceived, “requires interval or a gap, like the space between the wheel and the axle.” And it asserts provocatively that “the interplay between *figure* and *ground* is 'where the action is'” (1977, p. 9).

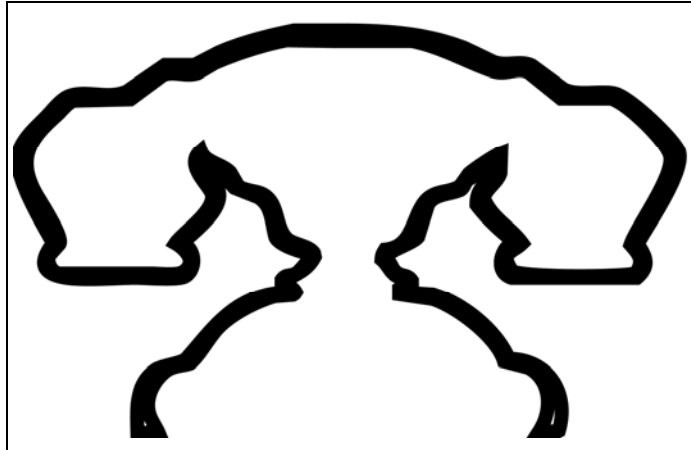


Fig. 2: Multistable image of dogs and phone based on a diagram provided in McLuhan's *City as Classroom*.

The book never reveals explicitly to its readers exactly *why* the suspension of figure and ground is “where the action is,” and why their “interplay” is of such concern. Nor does it clarify why perception would need to be retrained in order to provide access to this action or play. The answers to these questions lie not in this “highly performative” text, but in the understanding of the senses and their relationship that underlie it.

A gestaltist figure, after all, can be seen as a kind of latter-day, functionalist example of the type of due proportion that Aquinas observed to be characteristic of beauty. It allows the

viewer to engage in the performance and maintenance of “a very delicate equilibrium” that is of the utmost importance for McLuhan and his co-authors in this textbook:

This perception depends on a very delicate equilibrium: the moment one or another *figure* begins to exaggerate itself or to dominate the situation, the balance is destroyed, and the other elements begin to recede and to form a *ground* for it. Now consider: all figures at once means NO figures—just outlines and interfaces, just structure. In your own experience, you are always the figure, as long as you are conscious. (McLuhan, McLuhan & Huchon, 1977, p. 10 capitals in original)

This moment of simultaneous perception, for McLuhan, is a moment not just of a delicate visual equilibrium, but more generally of an all-encompassing *sensual* equilibrium. Although it is concerned intensively with a *visual impression*, the *effect* of this perception is ultimately registered on a completely different sense. Ultimately, this sensual *effect* --described by McLuhan in terms of “interplay” “interval” and “interface”—can only be one of *touch*. “Touch,” as McLuhan explains, “is not skin but the interplay of the senses.” It is “the resonant interval and frontier of change and process” (McLuhan & Powers, 1989, p. 13). It is, furthermore, the site of “a fruitful meeting of the senses, of sight translated into sound and sound into movement...”(1964, 60). And it is through this awakening of the translating, interfacing power of touch that this diagram is intended to have its sensual effect. It is in this way that this “situation for the training of perception” attempts to take the reader and viewer away from the “violent lopsided stimulus” that has developed through the 500-year domination of print. It is also in this way that it can perform attainment of *ratio* and “*sensus communis*” that McLuhan tirelessly sought to restore and sustain.

Conclusion

In concluding, it is useful to point out one more counter-intuitive insight that McLuhan offers here: Namely, that his training of perception does not occur simply by heightening the student’s self-awareness and self-possession as is the case in various forms of media literacy and critique. Instead, it arises through the *suspension* of this kind of “normal” or self-aware experience. McLuhan invokes a kind of experience in which there are “NO figures, just outlines and interfaces” (10). He deliberately contrasts this to common “experience [in which you] are always the figure, as long as you are conscious.” It follows that in the experience in which figure is *not* foregrounded, neither is an accompanying sense of self-possessed consciousness. What McLuhan is seeking, in other words, is to counteract one form of hypnotism and trance with another: The hypnosis produced by the 500 year hegemony of print is met by one that is more “in touch” with our wits and sensibilities overall. In an age of twitchspeed and twitter, multitasking and multimedia, such a cultivation of alternative sensual orientations in education can appear both current and compelling. One form of particularly witless somnambulism needs to be counteracted by another that is more closely in touch with the world *beyond* the classroom; and only then can we expect to fully awaken from the nightmare of our mediatic history, and become more alive to the multiplicity of our realities, both sensual and multimedial.

Despite its figurative and metaphorical nature, such an unorthodox conclusion and pedagogical program of “sensuous education” presents some points of practical relevance to education and educators today. First, McLuhan’s unusual understanding of the senses should prompt reflection on the rather different (but in some ways equally arbitrary) understandings of the senses that are accepted so readily in education today. In most cases, the senses are not seen in educational theory as forces that act upon the mind and upon one another in a manner that might lead to positive coherence or dangerous imbalances. Instead, they tend to be understood as so many inputs for information: visual, auditory and other forms of sensory data). These different types of data or information, it follows, are to be used in different combinations for different educational purposes. In many cases, these different sensory inputs are seen by educators as corresponding to different individual “styles” of learning, associated with Gardner’s (1983) multiple intelligences, and outlined explicitly in Fleming’s VARK model (Visual, Auditory, Reading/writing, Kinesthetic [or tactile] styles; Fleming & Mills, 1992). The premise underlying this model is that different senses process sensory data in different ways, and that individuals are predisposed to use one type of sensory processing over others. A further premise is that these individual differences should be accommodated through the use of sensory variety and alternative types of media and representations in delivery. It is worth wondering in this context whether other understandings of the senses might be worth adding to these particular dominant educational interpretations. In particular, one would be justified in wondering, as McLuhan does, not about the way that education can use the senses, but about how the senses “use” or otherwise determine education. We should not just ask, in other words, about how to exploit different sensory learning styles or corresponding media types for effective teaching, but inquire as to the ways that education is itself shaped by the current, mediatically influenced configuration or (im)balance of the senses.

McLuhan is right to answer this question by saying that education is clearly on the side of the 500 year old print media, aligned as it is with the reading/writing “style” of information processing and learning. However, for McLuhan, addressing this issue is not just a matter of using other representations in the classroom alongside of print. Instead, he sees education as being, by its very nature, irrevocably committed to print media, and he sees the authentic use of other, non-print media as necessarily occurring outside of the classroom and the school. As McLuhan puts it, schools are “custodian of print culture” (1962, p. 215), providing an officially sanctioned “civil defense against media fallout” (1964, p. 305) –protecting their students from alternative forms and media. McLuhan asserts that it is the city outside of the classroom –with its multimedial and increasingly aural bias—that is putting the school in an increasingly defensive posture. The school, in other words, is shaped by the tension that exists primarily outside of its control, in terms of its relationship with the world outside of it. For McLuhan, this relationship takes the form of a zero-sum game in which the school’s loss would be the city’s gain (and more improbably, vice-versa). In a 1968 newspaper article, for example, McLuhan is reported to have claimed that children would “burn down all the schools,” arguing that they will “refuse to go to be educated, when they are the products of a multi-billion dollar electronic environment” (Toronto Star, May 30). McLuhan was obviously wrong about children burning down schools in the 1960’s; but as media forms and contents become

increasingly diverse and ubiquitous, one can only wonder what the future holds for the school and education. Questions concerning the senses, their training through educational and mediatic forms correspondingly, will only increase in their urgency and diversity.

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