Towards a semiotics of hybrid spaces

Rough draft

Paul Bouissac

(University of Toronto, Victoria College)

The space of dreams, narratives, and theory can co-exist in some respect with our experience of the genuine space. But the experience of this fictional spaces preserves the ontological separation between the real and the virtual on the basis of the multimodal sources of information that characterize our experience of space and following a principle of mutual exclusion except in pathological cases. However, the electronic age has generated a virtual space that is experienced like the genuine space and combine with it to create a hybrid space. What kind of challenge does this create for human organisms who have not evolved within the constraints of such double or multiple spaces and what kind of semiotics can be developed to understand how this novel kind of spatial information is processed and is transformed into meaningful experience.

Originating in the context of animal husbandry, in which it refers to the offspring of two different species which can interbreed, the notion of hybridity has been extended to designate the consubstantial union of two different things. It has been applied, for instance, to education that mixes the print and electronic

media, architecture and fashion that blend different styles, cars that use two distinct sources of energy, and other innovative cultural and technological productions. The notion of hybrid space, though, refers to a more challenging issue in as much as it involves the alteration of a fundamental dimension of human existence: the three-dimensional space in which we have evolved. But the abstract representation of geometric space through its conceptualization as a volume characterized by three dimensions that provide the coordinates for the self and for all objects and their movements…this conceptualization implies a spatial homogeneity according to which each dimension differs from the other through their relative (axiomatic? arbitrary? empirical) relations but can be measured by the same metrics. It is fundamentally a reductive model of space which ignores gravity among other properties of the space we experience.

Topology addresses the perception of space in a more differentiated, experiential conceptualization. Even if it remains highly abstract in its more algebraic formulations, topology foregrounds intuitive meaning and semantic values. It grounds the semiotics of space in a regime of fundamental oppositions that are closely related to the private and social life of terrestrial organisms such as continuity, connectedness, proximity, neighborhood, ring, mesh, star, center and periphery, loops, knots, bridges, hub and spokes, bifurcations, convergences, and (famously) catastrophes, etc. Irrespective of their actual dimensions, these figure are compatible with, or represent meaningful configurations we encounter in the visual space in which we are immersed, and provide intuitive grounds for metaphors which allow us to cognitively assimilate heterogeneous positions, situations, objects, and events through the language of topological space.

Gravity, though, is absent from these models which conceptualize visual rather than kinesthetic space, the world we see rather than the world within which we move. The word theory, as we often forget, means panoramic vision. We take gravity for granted because it is a common invariant of experience. We are not aware of the air we don't see as fishes and other aquatic organisms are not aware of the water within which they live. All terrestrial organisms are pulled down toward the ground like metal pins by a magnet. Stability and instability, top and bottom, climbing and falling pertain to much more than visual perception. Gravity is at the core of the semiotic of space but it is like the elephant in the room that is never mentioned in the conversation. For most humans zero gravity is anecdotal, a kind of side-show, a trick staged by "*la physique amusante*". But actually, it is what makes the crucial difference between visual and dynamic space, genuine and phenomenal space. Typically, the semiotics of gesture, which can be considered to be a part of the semiotics of space treats gestures as visual phenomenon with little attention, if any at all, paid to time and gravity.

The purpose of this paper is to explore the notion and the experience of hybrid space. A hybrid space can be heuristically defined as a space that is formed by two different kinds of space which are both incommensurable and non-dissociable. It is like the offspring of two animal species which normally do not interbreed but can co-exist in the same niche or overlapping niches. Fictional, ritual and dreamed spaces, for instance, are examples of virtual spaces that both can and cannot be dissociated from the physical space within which they are experienced. The concept of heterotopy or heterotopia has been devised to designate a space that is different from phenomenological space or which is out of place. The term heterotopy (or heterotopia) is formed by two Greek words: *topos* (place, space) and *heteros* (other). By analogy, heterochrony joins together *heteros* and *chronos* (time) with the corresponding

semantic effect. These concepts refer to spatial and temporal “otherness”, even wrongness of place. These words come from the technical vocabulary of medicine and biology where they designate respectively a deviation from the natural position of an organ and an evolutionary change at the site at which a particular development occurs. Heterotopy was coined by German evolutionary zoologist Ernst Haeckel (1834-1919). More recently, American biologist Stephen Jay Gould used these two terms to explain changes in spatial patterns of development. Subsequently, this terminology was borrowed by social scientists and literary scholars (for instance Mikhail Bakhtin, Henri Lefebvre, and Michel Foucault to refer to spatial and temporal otherness in cultural productions. A novel that would take place in an upside-down world or in a zero gravity universe would be such a heterotopy. Utopias and dystopias often take place in heterotopic space.

The virtual space of electronic media is a new heterotopic affordance of our technological environment which is ruled by its own spatial logic while being seamlessly interfacing with the here and now of our biological and social existence. The ubiquitous presence of computer screens in all kind of scales causes most contemporary humans to deal with two kinds of space simultaneously. The challenge is to elaborate a cognitive meta-frame that can conceptualize hybrid spaces and explore the semiotic processes which allow us to make sense of this ontological splitting and its mediation. This is indeed all the more challenging as most of the basic semiotic categories that structure physical and cultural space do not apply to virtual space. This requires the emergence of a new set of semiotic competencies including semantic, syntactic, and pragmatic functions that cannot consider gravity as the default state of the interactions with other organisms and the environment, mainly when we experience conjointly gravitational space and zero-gravity space.

Let us take as a heuristic point of reference A.J. Greimas's essay "Pour une semiotique topologique" in which he articulated with great clarity his prolegomena to a semiotics of space. It is a top-down approach, starting with the Cartesian evidence of an axiom: the knowledge of the world consists of projecting categorical discontinuity upon the spatial continuum. Space, like meaning, can be apprehended only as long as it is articulated. Each culture, like each language, categorizes space in its own way. The notion of a primary spatial continuum is presupposed as a necessary ground for the emergence of an articulated world. Adapting the model of Hjelmslev, Greimas construes continuous space as the substance and discontinuous space as the form whose distinct parts can signify through the coupling of a category of *signifiant* with a category of *signifie*. Consequently, a spatial binary opposition is the absolute condition for spatial meaning to emerge. But this raises two questions when we reflect upon hybrid space. The Cartesian notion of *etendue (undifferentiated bi-dimensional expanse)* a theoretical fantasy that can never be experienced as such. It is the arbitrary negation of the differentiated space within which we are born and to which we are adapted. This space is made of niches that are juxtaposed or embedded within each other. The only way to experience continuity is to follow itineraries through moving landscapes, from a beacon to another, across a net of meaningful configurations which constitute our articulated semiotic universe.

How does hybrid space transform this experience of space? Pokemon Go is a telling example. The player who proceeds with eyes fixed on the small screen of a cell phone in search of a Pokemon that might be floating around, unexpectedly, in another space that nevertheless overlaps minimally with "genuine" space since a Pokemon can be caught only by travelling along a network that does not necessarily coincide with the urban grid or the countryside paths. These latter logic of space is not relevant indeed

to the logic of the virtual space in which Pokemons exist and vanish. The player must play in accordance with the constraints of two different spaces. The player must survive by negotiating both the logic of the space to which the human species is adapted and the logic of the virtual space where Pokemons must be caught for the player to remain alive to the game, that is, to survive as a player. It is frequent that we witness a player transgressing the basic categories which determine lawful and safe behavior because Pokemon ecology is not relevant to the genuine and structured space of the civil society. In the case of addiction, catching Pokemons overrides biological survival behavior. It is somewhat like the fable of the astronomer who falls in a well while trying to catch a glimpse of far-away stars. The hunting behavior of humans has been high jacked by an alien semiotics of space.

However, the Pokemon example is anecdotal (perhaps only in appearance) when it is compared to the experience of virtual space and augmented reality. Our experience of genuine space is multimodal although we tend to think of it in visual terms. The optic flow combines with haptic, acoustic, olfactory information. Our experience of space is as much the constant updating of where we are as it is the knowledge of where our body is with respect to our proximal and distal environment. The proprioceptive space is indissociably conjoined with our visual space. When we are equipped with special googles and are immersed into a virtual space, there is a profound mismatch between the proprioceptive experience and the visual experience. Our common experience of space is controlled by the natural algorithms that have evolved in our brains and allow us to adjust successfully our behavior to our environment. It is at least minimally adaptive, but not absolutely so. For example, our inability to assess perspective beyond a limited distance is a consequence of our tree-dwelling adaptation. Our organisms, though, have evolved adaptive synchronizing of multiple sensorial inputs. The novelty of immersive virtual space confronts us not only to a practical challenge (keeping our balance and keeping in mind the obstacles that are invisible

in virtual space) but also to a cognitive disruption in as much as our semiotic (topological) assumptions have a restricted validity.

Lack of continuity and contiguity, absence of resistance and obstacles, transversability of opacity, negation of gravity, etc., contribute to define a heterotopia to which humans need to adapt as hybrid space is becoming a substantial property of their environment, notably if augmented reality becomes intimately integrated in everyday life as it is now expected to define the next technological frontier.

The temptation to eliminate the problems by claiming that virtual space is a simple simulation of genuine space would ignore the fact that two kinds of incompatible spatial inputs are simultaneous. Most of the assumptions that subtend the semiotics of space do not hold in the human experience of hybrid space.

First question: Is there a continuum between genuine and virtual space?

Second question: Can a human be embodied into virtual space?

Third question:

Fourth question: Can a human subject's point of view be from two positions at the same time, both here and elsewhere?