Furrows.
Undermining the Limits of Our Language

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Foreword

In the following note –without delving into the broader topic of drawing as language, or seeking to establish the connections between verbal and graphic forms of communication– I take the opportunity to organize some reflections that have emerged over recent decades. These reflections have shown a certain practical effectiveness in educational and didactic contexts, and are based on references that are not particularly recent, yet far from obsolete. They concern the possibility of consciously reversing the deep-rooted tendency of language –both graphic and verbal– to shape our imagination, transforming this limitation into an expansive potential [1].

Furthermore, the writing of these pages is guided by a personal commitment, made years ago, to seek a meaningful and objective interpretation of a seductive but rather cryptic image by Saul Steinberg, to which we will return, that seems to suggest a link between the practice of drawing and the conscious definition of the self.

To know (how) to see

Author of the highly successful *Anatomy of the Human Body* [Cheselden 1750], written at just twenty-five years old and continuously published in eleven

This article was written upon invitation to frame the topic, not submitted to anonymous review, published under the editorial director's responsibility.

Fig. 1. Gerard Vandergucht, Portrait of William Cheselden, 1733 ca., graphite on paper. Vandergucht was the author who illustrated Cheselden's anatomical treatises: <https://en.wikipedia.org/wiki/William_Cheselden#/media/File:William_Cheselden_van_der_Gucht_circa_1733.jpg>.

editions from 1713 to 1778, British surgeon and anatomist William Cheselden (fig. 1), one of the most prominent physicians of the 18th century, succeeded in defining several innovative surgical procedures for the treatment of debilitating illnesses. Inventor of the first artificial pupil for treating certain ophthalmic malformations, Cheselden found a fruitful balance between research activity, clinical practice, and the detailed reporting of his experiences, which still stand out for the clarity of their descriptions and the sincere empathy he showed toward his patients.

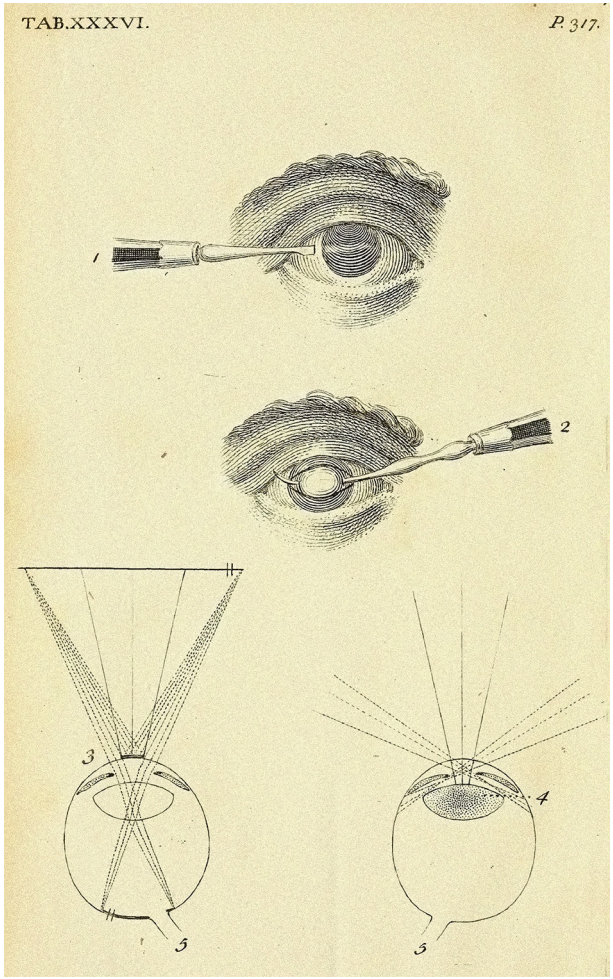
At a time when clinical activity, lacking shared protocols, was often overrun by incompetent individuals, Cheselden's scientific and human legacy represents a rare example of lucid awareness. While the multifaceted John Taylor –the famous itinerant oculist– performed surgeries with charlatan methods and media hype, ultimately blinding two of history's greatest musicians, Handel and Bach [Zeraschi 1956; Zegers 2005], Cheselden's path shines in stark contrast.

In a 1727 article published in the *Philosophical Transactions* of the Royal Society, Cheselden reported on a surgical procedure performed on a young "gentleman that he was blind," either born blind or having lost his sight so early that he retained no visual memory [Cheselden 1727]. The boy, thirteen or fourteen years old, suffered from thick cataracts that allowed him to distinguish day from night and perceive colors vaguely, but prevented him from recognizing even the most obvious shapes. After the opaque veil over his corneas was removed (fig. 2), and he gained (or regained) sight, he expressed a preference for simple shapes –smooth, regular geometric ones– which he soon learned to recognize. He focused on visually identifying faces and objects he had previously known through touch, now imbued with new meaning.

From a distance, however, he often confused dogs and cats and could only recognize them by touch, vowing to remember their visual form next time ("I shall know you another time"). He was sometimes disappointed when things or people he had imagined to be beautiful did not visually match his expectations. He struggled to recognize drawn forms of objects, except for geometric ones. Later, he had to train himself to understand the size of objects, especially large ones, like buildings, which even after a year he still could not judge by distance.

In much more recent times, Oliver Sacks described a remarkably similar case in the chapter *To See and Not See* from his *An Anthropologist on Mars* [Sacks 1995]. He recounted the story of Virgil, a fifty-year-old man who regained sight through surgery after having lost it at a very young age, retaining no visual memories. In the months following the procedure, Virgil's partner told doctors that he had to learn to see "like a newborn: everything is new, exciting, frightening, and he is unsure of what it means to see" [Sacks 1995, p. 129].
As medical knowledge has advanced, such cases have increased significantly, and techniques now exist to assist those who acquire sight later in life. Even centuries ago, similar conditions inspired reflections not only by scientists but also philosophers. In his *Essay Concerning Human Understanding* (1694) [Locke 1975], John Locke speculated that a man who gained sight as an adult would not be able to distinguish a cube from a sphere without the help of tactile experience [2]. George Berkeley, in his *Essay Toward a New Theory of Vision*, asserted that there is no necessary –structural, so to speak– connection between tactile and visual worlds, and that any correlation arises solely through personal experience [Berkeley 1920, pp. 46, 47].
Such adaptation, when sight is gained in adulthood, can be so challenging that some patients are overwhelmed and reject the intrusive nature of visual sensation. In these paradoxical reactions, one might hear echoes of H.G. Wells' *The Country of the Blind*, where a sighted traveler stumbles upon a community of blind people and assumes, as the proverb suggests, he will be their uncontested king –only to discover that sight, utterly unnecessary to them, is viewed as a burden and a barrier to social life, ultimately leaving him alienated [Wells 1973].
The accounts of Cheselden and Sacks –and the emotional parallels between the stories of the young gentleman and Virgil– lead us to reflect on how deeply vision is tied to cognitive mechanisms through which we recognize, name, and imagine the world. For those who gain sight later in life, at least in the beginning, the world appears as an incomprehensible cascade of colors and shapes devoid of recognizable meaning, a state that oscillates between the joy of new perception and the despair of disorientation.

Fig. 2. Gerard Vandergucht, Cataract surgery and effects on vision, 1713, etching. From Anatomy of the Human Body [Cheselden 1750, plate XXXVI].



These experiences resonate with ideas articulated in the writings of American linguist Benjamin Lee Whorf, a close collaborator of Edward Sapir active from the 1920s to the late 1940s. A scholar of Native American languages [Whorf 1977], especially Hopi, Whorf developed Sapir's idea that one's cognitive model of reality is shaped by the languages one speaks. Sapir suggested a relationship between the deep structures of a group's language and their worldview [3].
Though he divided his time between linguistic studies and his job as an insurance executive, Whorf worked to demonstrate this relationship by analyzing analogies between grammatical and syntactic structures and the speakers' perception of reality. The 'Sapir-Whorf hypothesis', as it became known, has drawn (and continues to draw) interest among experts [Sica 2022], despite the dominance of more universalist models like those of Noam Chomsky, who argued for an innate, largely uniform human capacity for language.
Nevertheless, despite skepticism and Whorf's untimely death, his ideas remain fertile and thought-provoking. As Whorf wrote, after linguists critically examined many languages, "It was found that the background linguistic system (in other words, grammar) of each language is not merely a reproducing instrument for voicing ideas but rather is itself the shaper of ideas, the program and guide for the individual's mental activity, for his analysis of impressions, for his synthesis of mental objects with which he is concerned" [Whorf 1977, p. 169]. Thus, language is not merely a technique for expression but a tool of thought that profoundly shapes each individual's approach to reality.
Whorf continued: "We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena do not present themselves to us as such because they are obvious [...] the world is presented as a kaleidoscopic flux of impressions which has to be organized by our minds –and this means largely by the linguistic systems in our minds" [Whorf 1977, p. 169].
Whorf's phrase –"a kaleidoscopic flux of impressions"– vividly evokes how the world must have appeared to the young gentleman or to Virgil, immersed in a newly discovered visual realm, constantly bombarded by moving shapes and colors with no recognizable meaning, silent despite their clarity, and inaccessible in their abstraction. The visible world appeared as a "kaleidoscopic flow of images," one could say, that they could not organize, whose boundaries they could not perceive, and –most importantly– could not name, making it impossible to associate them with a linguistic identity that would allow interaction and cognitive control through language.
In an ironic *Dialogue on Method*, in which Paul Feyerabend interviews himself, the philosopher recounts a telling anecdote: "Some years ago I was walking toward a wall when I saw a disreputable-looking man approaching me. 'Who is that bum?' I asked myself, then I realized the wall was a mirror and I was looking at myself. Immediately the bum turned into an intelligent and handsome fellow" [Feyerabend 1993, pp. 113, 114].
We are able to see what we recognize. We judge what we recognize based on what we know, and this mechanism is supported by the linguistic structure of our thought and our knowledge, which allow us to narrate –or draw– in a specific way that is a direct expression of our cognitive capacity.

Words and images

It is probably unnecessary to argue in favor of the idea that there is a direct structural relationship between verbal language and drawing, especially today, when this can be indirectly demonstrated by the fact that –evident to all– generative algorithms capable of simulating linguistic interaction with a human subject, such as *DeepSeek* or *ChatGPT*, also produce plausible images, and that the training mechanisms of these systems are essentially identical and based on both images and written texts.
The relationship between language and the visual domain –which clearly extends in directions not explored here– seems to find, in the continuity between the organization of stimuli taken from reality, the immediate understanding of the world, and the elaboration of knowledge, a deep bond such that –whether we refer to words or to forms– without the ability to identify relationships among different

elements, reality ends up appearing incomprehensible, and at times even terrifying. Drawing –as a means of interpreting the visible, producing images, and serving as a vehicle for design thinking, capable of ferrying the vaguest ideas of form into the concreteness of tangible realizations– occupies a broad and articulated space that spans the countless directions in which visual expression manifests itself with innumerable facets.
If we consider certain categories of forms –those directly tied to drawing and architecture, and widely historicized– it becomes evident that a relationship exists between linguistic-narrative configurations and those that fall under the domain of visuality. Erwin Panofsky, in *Gothic Architecture and Scholasticism* [Panofsky 1990], demonstrated a direct analogy between the mature expressions of medieval architecture and the structure of tripartition, likely related to the Trinitarian 'form' of the Christian deity. Following this analogy, Panofsky identifies precise correspondences between the tectonic and spatial organization that permeates great cathedrals –for example, the vertical division into base, shaft, and capital – and the structure of certain Thomistic texts, or even Dante's *Divine Comedy*. His analysis extends to a detailed exegesis of a drawing from the notebook of Villard de Honnecourt, in which the dialectical structures of Scholasticism find such a coherent expression in the planimetric organization of the church –designed by him "*inter se disputando*" together with Pierre de Corbie– that Panofsky concludes that "here Scholastic dialectics has led architectural thought to such an extreme that it almost ceases to be architectural" [Panofsky 1990, pp. 48, 49].
Similarly, when we speak of the "language of the architectural orders", we are doing far more than drawing an analogy between verbal organization and that of forms, especially when considering the connotation that the teaching of the orders had acquired by the mid-nineteenth century. In those years, the many manuals on drawing the orders –published especially in Italy and England, where the echo of Palladianism had not yet fully faded– proposed an idea of classical form organization that was strongly hierarchical and seems to reflect the intuitions of Ferdinand de Saussure, which would soon lead to the definition of linguistic structuralism. The forms of the five orders of architecture were structured on multiple levels, from that of individual moldings (such as the torus or scotia), whose combination determined simple profiles (like the astragal, for example), which in turn composed recognizable elements (such as a capital or a cornice), whose assemblage generated the entire architectural order. This order was structured through at least two hierarchies of successive tripartitions [Dotto 2011]. Likewise, in language, individual letters are composed into words, which constitute the parts of elementary sentences, which make up the periods, whose sequence unfolds the verbal narrative.

Domains (and domination)

If we can assume a close analogy between language and drawing, then it is probably necessary to turn our attention to an aspect of verbal language –a kind of "side effect" of its use– that has been widely recognized and ultimately implicates both the graphic field and the imagination of forms.
George Orwell, in the invaluable (and unsettling) appendix to his most famous novel, 1984, addresses the principles of 'Newspeak' [Orwell 1984, pp. 329-342]. As we may recall, in *Ingsoc*, the dystopian regime in which the story is set, a new language is artificially constructed, based on English, from which a series of terms is purged in order to make the corresponding concepts inaccessible –and therefore to exclude them from the possibilities of human thought– as they were considered dangerous to the maintenance of social order. Words like 'revolution' or 'freedom', while still technically present in the vocabulary, would have lost any ideological connotation, so that 'revolution' would only mean a rotational movement, and 'to be free' would simply mean 'to be free from something' (e.g., a dog free from fleas), but would no longer carry any reference to 'political freedom' or 'intellectual freedom', since those concepts no longer existed –not even conceptually– and thus necessarily lacked a word to express them [Orwell 1984, pp. 331–332]. Furthermore, "Newspeak had been invented to meet the ideological needs of Ingsoc" [Orwell 1984, p. 331],

and its primary purpose was "to make all other modes of thought impossible." Orwell meticulously describes a series of strategies for turning language into a tool of control, showing how language itself, with its history and semantic density, actively enabled the individual to develop autonomous thinking. But in *Ingsoc*, "a person growing up with Newspeak as their only language would never know that equal had once had the secondary meaning of 'politically equal', and that free had meant 'intellectually free' […] Many crimes and errors would be beyond the possibility of being committed, simply because they lacked a name and thus could not be conceived" [Orwell 1984, p. 331].
Already Cicero, in *De Oratore*, observed that the Greeks, not having the word *ineptus* in their language –because they did not acknowledge the seriousness of the vice of being, strictly speaking, inept ("*itaque quod vim huius mali Graeci non vident*")– would not have been able to recognize it in others [4].
As is well known, Orwell's text dates from 1948, and by that time Roman Jakobson had already explained –as Roland Barthes reminds us– that "a language is defined not so much by what it allows you to say, but by what it obliges you to say" [Barthes 1981, pp. 7-8]. And Barthes adds, "to speak […] is not, as is so often repeated, to communicate: it is to submit: all of language is a generalized predetermination"; "it is simply fascist; fascism, in fact, is not preventing speech, but forcing speech" [Barthes 1981, pp. 8, 9]. Since every language constitutes a closed system "with no outside," which one can exit only "through mystical singularity" –thus through the abandonment of language– the only way to move freely within it is to "cheat language, swindle language". This cheating, Barthes continues, "I call: literature".
Language, therefore, not only guides the formation of our thoughts, but even imposes the very way in which they are structured, deceiving us into believing that we move freely when in fact we are trapped in a directed current of references, concepts, thoughts (and even insights) that are only conceivable within the linguistic system assumed by our minds.
Even if we were to adopt a moderate, less absolute version of this condition, we probably could not go beyond what Borges pointed out in a late-1970s interview with Alberto Arbasino. When Arbasino courteously invited the Argentine master to choose the language in which to hold their conversation, Borges replied that he could not choose, as he did not know the topics to be discussed. Each language, being linked to the mental attitudes of the peoples who created it, would prove suitable to reflect and communicate on a specific range of subjects [5].
Around the 1930s, Alfred Korzybski conducted some experimental research into this relationship, which led him to define the discipline –variously credited but mostly considered a "pseudoscience"– that he called *General Semantics*. Its basic premise is that human beings are limited in their knowledge not only by the structure of their nervous systems, but above all by the innermost structure of the languages they use. We cannot experience the world directly, but only through abstractions based on language and the impressions created within our nervous systems [6]. Korzybski –who developed effective linguistic protocols to treat the post-traumatic disorders of many Vietnam War veterans– understood the crucial importance of awareness of these mechanisms, whose conscious use could allow for a broader and more effective relationship with the sensible world. His ideas influenced many scholars, including anthropologist Gregory Bateson and the founders of Neuro-Linguistic Programming, John Grinder and Richard Bandler, who built several successful operational techniques based on these concepts [7].
According to Feyerabend, "the best protective device against the influence of a particular language is the practice of bilingualism or trilingualism" [Feyerabend 1993, p. 49], that is, the ability to adopt a critical attitude toward the thought structures each language imposes upon us. In this way, by observing each structure of thought from the "outside" of another language, one could attain greater openness, capable of allowing a broader understanding and perception, free from unconscious conditioning.
Over thirty years ago, during the writing of my thesis –where I used a design experience to explore certain hypotheses on how architectural drawing influences the imaginative realm– I tried to adopt, one at a time for several weeks, the handwriting and drawing style of some famous architects, attempting to imitate their graphic style as if I were a forger (figs. 3, 4). I realized that each specific drawing method

oriented my design process in a particular direction, making some solutions easy to imagine and others difficult to reach. The graphic language used –the specific idiom of each architect– seemed to contain solutions not only of a formal kind but especially of a structural nature, exactly as noted in those same years by Vittorio Ugo, who wrote that "the symbolic value of language –and of any language– resides more in its syntax, in its grammar and their rules, than in the words and their individual denotative or descriptive function" [Ugo 1994, p. 147]. Certainly, the results of such a 'handcrafted' and limited experiment cannot be taken as a sufficient sample, nor is it possible to imagine an assessment of such experiments, even if conducted more systematically, that would not be at least partially influenced by prior expectations. In any case, I was able to draw reflections similar to those expressed in clear and elegant words by Margherita De Simone, who at the end of the 1980s wrote: "representation is never neutral. The systems favored in the development of the design act as mediators of offerings, intervening themselves within the offer" [De Simone 1990, p. 194]. During a 1985 *Seminario di Primavera* (Spring Seminar), De Simone also recalled: "there is [...] a lovely expression by Tristan Tzara: 'Thought is formed in the mouth,' which means that, all in all, the tool is never independent of the way in which the implementation of a project is conceived, but ends up directly influencing it" [De Simone 1988, p. 23], so that drawing is identified as the "genetic core" [De Simone 1988, p. 231] of architectural thought, constituting "the language of the project" [8].
Language –whether graphic or textual– ultimately influences our verbal thought or imaginative capacity through similar mechanisms in both domains. In any case, it now becomes evident how this influence can have at least two distinct connotations. Vittorio Ugo, providing us with a perfect synthesis, writes that "every system brings together different elements into a unified whole and creates more or less flexible and intense connections and bonds within the fragmented field of empirical reality, attempting to collect it into a unity. In this, it is certainly 'symbolic', at least in the etymological sense of the term (from 'sún-bállein', to bind, to connect together). However, alongside this conciliatory function –and still playing on the etymology– one can legitimately identify [...] an opposite and equally powerful 'diabolical' dimension. To the extent that the system seeks total comprehensibility and aims for complete exhaustiveness, it simultaneously tends to close in on itself, establishing an unbridgeable distance between its self-sufficiency and the actual course of the world. And it is precisely from the fact that the system comes into contact with the world only in a symbolic manner that its literally diabolical scope, its irreparable and definitive split, paradoxically derives" [Ugo 1994, pp. 147, 148].
Just as –and to the same extent that– language brings us closer to the reading of reality and the imagination of what is possible, it also excludes us from all other possibilities of understanding and invention.

Resignation, re-signification

There is no doubt, however, that the call for awareness of mechanisms of this kind –on which Korzybski focused his studies– can also be extremely useful in the field of drawing and the reading of forms and images. Being conscious of the limits and the power of our verbal and graphic language can give us significant advantages. If we understand that, likewise, the language we use and the way we draw have a direct effect on our thinking processes, influencing our visual imagination and the development of our ideas, then we can consciously guide, direct, and structure our education, fully aware that our way of seeing is formed during the phases of learning, gathering knowledge, and building our graphic and verbal language.
Many historical and exegetical studies on the work of modern architects –and also those from earlier centuries– show in a precise and convincing way the direct lineage between the forms and images they experienced during study trips, passionate investigations, and detailed analyses of places, authors, and architectures, and what those same architects –sometimes even decades later– conceived during their design careers. Fabrizio Foti, who insightfully investigated the origins of certain formal and conceptual patterns in Le Corbusier's architecture, revealing their roots in what the Master had learned

Fig. 3. Study drawing for the development of a graduation thesis, drafted by imitating the graphic language of Franco Purini. India ink on vegetal tracing paper (drawing by the author, 1993).

in his youth [Foti 2008], repeatedly describes this virtuous process as "a research direction aimed at forming a mnemonic repertoire and a poetic potential of a more general nature, a visual culture" [Foti 2016, p. 10], within which it invariably becomes evident that "drawing is […] an action that supports observation and imagination: through drawing […] we fix and specify in our minds information that fuels our mnemonic and intellectual capacity" [Foti 2016, p. 41].

The environment in which each of us grows intellectually contributes to the construction of both our visual and verbal language. Our curiosities, and the paths available in this environment that we choose to take (or paradoxically, avoid), complete and define the construction of our intellectual identity. Its linguistic connotation, on one hand, allows us to quickly access a wide range of possibilities, while on the other hand, it confines our capacity to imagine within the same tracks those convenient 'rails' had previously outlined.

To reduce the intrinsic limitations this entails, we must exploit the effectiveness of this very mechanism by consciously feeding it. In other words, we have the possibility to perform a semantic shift similar to the one (referring to much more urgent and delicate matters than the one addressed here) that Franco Berardi proposes when he considers 'resignation' as the first step of a 're-signification', that is, the adoption of exegetical and operational tools capable of transforming an apparent limitation into a further opening of perspective [Berardi 2023, p. 168].

If we deeply understand the mechanisms discussed here –and which, upon reflection, we cannot help but have experienced –and accept them as a starting condition, we can prevent the independence of our thought from being at risk. Each of us can exercise a profound freedom in establishing the boundaries of our own will, defining –through study, travel, encounters, reflection, and reading– our linguistic domain, the space in which the mechanisms of language will allow us to operate. We are not free to act neutrally with respect to our language –whether graphic or verbal– but we can organize it, expand it, implement it, consciously constructing and defining our cognitive possibilities.

Fig. 4. Study drawing for the development of a graduation thesis, drafted by imitating the graphic language of Umberto Riva. Graphite on "cipollina" paper and talcum powder (drawing by the author, 1993).

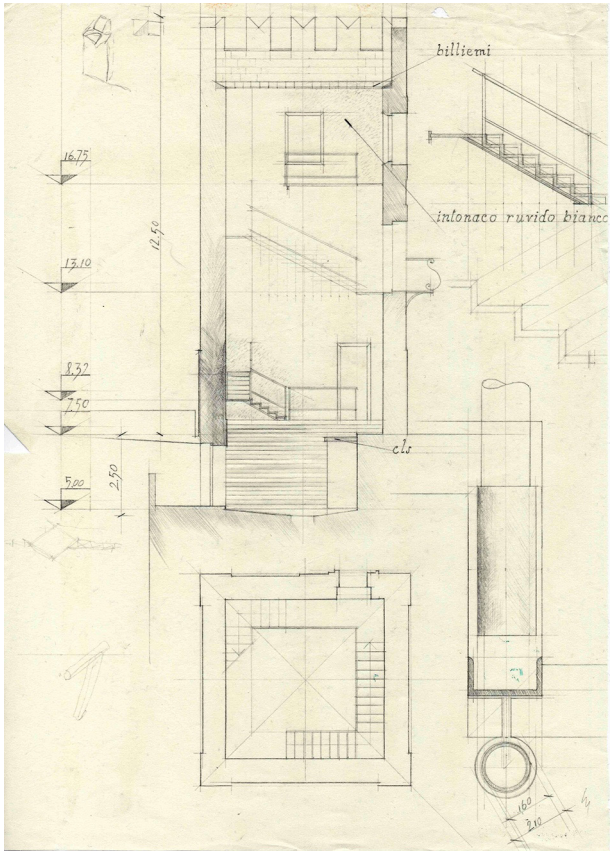


Fig. 5. Saul Steinberg, drawing from The Art of Living [Steinberg 1949].

Thus, even at the risk of engaging in a kind of "intellectual bricolage," we can "give ourselves a form" –literally, 'form ourselves'– just like those stylized characters drawn by Saul Steinberg (fig. 5), who, using the pen they hold in their hands, trace the contours of their own figure, continuously oscillating between the condition of subject and that of object. In the same way, by practicing this approach to education, we can shift from actively expressing our will to passively enjoying its outcomes –from laboriously carving the bed of our actions to flowing within it, comfortably.
Perhaps in this dual, oxymoronic condition –if lived with awareness– lies, for each of us, the possibility of charting a path for our future, or at the very least, etching the grooves that might guide its direction. We build our uniqueness through study, curiosity, and desire; this is the most powerful weapon to free ourselves from the homogenizing influence of language and to reverse it, transforming it into a path for shaping our freedom.

Notes

[1] The theme of the relationship between drawing and design thinking was originally and stimulatingly addressed by Giancarlo Carnevale [Carnevale 1988; 1991], who made it one of the central topics of his brilliant (and unforgettable) lectures in Architectural Composition. A concise personal summary for didactic purposes can be found in Dotto 2008.

[2] The topic was introduced by Locke only in the second edition of his work, published in 1694, following an epistolary exchange with the Irish scientist William Molyneux, who had raised the issue –since then known as the 'Molyneux Problem'– to various intellectuals of the time. For a documented summary of the matter, see the essay by Alessandra Jacomuzzi at <https://journals.openedition.org/estetica/2034>.

[3] A short text by Sapir clarifying the terms of his hypothesis is quoted by Whorf in the epigraph to the essay *The Relation of Habitual Thought and Behavior to Language* [Whorf 1977, p. 99].

[4] The text by Cicero is cited in the work of Maria Pia Sica [Sica 2022, p. 11]. The verification of the quotation was carried out using a version of *De Oratore*, Book 2, Part IV, verse 18, available online: <https://www.thelatinlibrary.com/cicero/oratore2.shtml>.

[5] In *La spirale ostinata* (The stubborn spiral) Giancarlo Carnevale gives a detailed account of the interview Jorge Luis Borges gave to the young Alberto Arbasino [Carnevale 1988, note 19, p. 19]. A video of another conversation between the two writers, held in 1977, is available online: <https://www.youtube.com/watch?v=Y5vKy7LZpnc>.

[6] The work of the Polish-born American anthropologist Alfred Korzybski (1879-1950) had a wide influence on 20th-century psychology and psychotherapeutic practice. His most famous phrase, "The map is not the territory", often mistakenly attributed to other authors, summarizes part of his thought. For an introduction to his work and the outcomes of his research, a careful consultation of the website <https://www.generalsemantics.org> is recommended, which hosts texts, videos, and images that do justice to his brilliant insights.

[7] The part of Neuro-Linguistic Programming most closely tied to Korzybski's insights involves the so-called *Metamodel*, developed in the 1970s by John Grinder and Richard Bandler. It proposes operational techniques for altering the perception of personal experiences by modifying the structure of the verbal narrative each person uses to represent themself. For an idea of Korzybski's influence on the work of British anthropologist Gregory Bateson (1904-1980), see for example the essay *A Theory of Play and Fantasy* in *Steps to an Ecology of Mind* [Bateson 2018, pp. 218-235].

[8] The expression by Margherita De Simone is included in the transcript of a roundtable discussion held during the second *Seminario di Primavera* (Spring Seminar) in Palermo on May 25, 1985, and published in the conference proceedings [De Simone 1988, p. 177].

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