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Artefacts as Signs, Signs as Artefacts

Some research proposals from a materialistic-semiotic approach

Abstract: The category of "artefact" has been analyzed by different semiotic theories and methods. Starting from the Marxian theory of the dialectical relation between *production* and *use* (or *consumption*), Ferruccio Rossi-Landi (1921–1985) maintained the possibility of considering every "artefact" – or *use-value* – as a crossroads between *material* and *linguistic* production, i.e., as a crossroads between labor and language. This paper proposes a comparison – and a dialogue – between Rossi-Landi's materialistic sign-theory and other semiotic approaches. From such a perspective, the concept of "artefact" could be considered as an analytical starting point for the study of further social and economic meaning-making processes.

Keywords: labor; language; Marxian theory; production; use-value

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1 Purposes and structure of the study

As the title of the article suggests, I will try to analyze the relation between two fundamental concepts: *sign* and *artefact*. More specifically, I will analyze this relation from a specific theoretical perspective: I am referring to *materialistic semiotics* as developed by the Italian scholar Ferruccio Rossi-Landi (1921–1985). Starting from his categorical framework, I would like to outline some parallels – and some convergences – between what Rossi-Landi himself defined as the *homological method* (Rossi-Landi 1968) and other theoretical approaches.

As I will try to explain in the following, the concept of *homology* refers to the hypothesis according to which *work* – understood as "labor process" (Marx 2002: 453) – and *language* – understood as the human ability of generating, communicating, and interpreting verbal and nonverbal signs – share some genetic and structural similarities.

Given these premises, I introduce the structure of the article.

First of all, the second section will introduce the fundamental feature of Rossi-Landi's semiotics: his homological method. More specifically, I will focus on the concepts on which this method is based: the concepts of work and language.

In the third section, I will focus on the different semiotic approaches which have analyzed the category of *artefact*, and I will try to connect them with Rossi-Landi's theory.

The fourth and final section will focus again on Rossi-Landi's semiotics, illustrating his theory about the dialectical relation between the concepts of *use* and work. More specifically, considering that production of artefacts is also production of *programs* – that is, production of certain organized portions of sign systems – Rossi-Landi maintains that the artefact can be analyzed as a point of convergence between work and *semiosis*.

By illustrating the possibility of comparison between different categorical frameworks and theoretical backgrounds, this paper aims at establishing a dialogue between semiotic approaches interested in the relations between artefacts – or *object of use* – and human beings.

2 Homology: Language and work

As already mentioned, the relation between the concepts of language and work can be framed in a specific semiotic approach, called *materialistic semiotics*. In his "Ideas for a manifesto of materialistic semiotics" (1979), Rossi-Landi affirms that: "a materialistic semiotics must be a semiotics founded on social reality, on the actual ways in which [humans] interact among themselves and with the rest of the living and nonliving world. [Materialistic semiotics] cannot examine sign systems apart from the other social processes with which they are functioning all along" (Rossi-Landi 1992: 278).

Therefore, from a materialistic-semiotic perspective, language and work represent the two universal structures through which human beings interact among themselves and with *nature*; and what we define as *social reality* is the result of these two human abilities. In order to analyze the dialectical relation between language and work, an *abstract theoretical model* is necessary and this model, according to Rossi-Landi, should be structured following the so-called *homological method*.

But what does *homological* mean? Rossi-Landi borrows this term from the biological sciences, where it refers "to a fundamental similarity due to

community of descent, to a correspondence in structure and in origin" (Rossi-Landi 1977: 72, note 25) between different *species*.[1] From such a perspective, homological methods consist in constructing a theoretical model through which certain *similarities* and *correspondences* – between boundaries of analysis which appear as completely disconnected – can be identified (see Ponzio 2008: 8).

Starting from the concept of homology, Rossi-Landi develops one of his most important theoretical proposals: the Marxian thesis on the *anthropogenic character of work* should be extended, including the thesis on the *anthropogenic character of language* understood in its verbal and nonverbal dimension; human beings *produce* themselves through their social work, and in this sense mankind is the result of the *general process of social reproduction*;[2] but a relevant part of social reproduction is constituted by *linguistic production*.

Therefore, the homological method consists in connecting the *two sub-totalities* of *linguistic production* and *material production* in a broader totality constituted by the human being, understood – from a Marxian point of view – as the result of social reproduction. In this regard, some terminological – and, of course, theoretical – clarifications seem opportune.

2.1 Language/linguistic production

First of all, let us consider the pair *language/linguistic production*. In his 1977 monograph, *Linguistics and economics*, Rossi-Landi specifies that the term *language* – and, consequently, the adjective "linguistic" – refer to the *verbal sign systems*, more specifically, to "verbal (oral and written) codes and messages" (Rossi-Landi 1977: 17). Of course, he is well aware of the fact that this kind of connotation could be "rather conservative" (Rossi-Landi 1977: 17), but he also underlines that such a terminological choice depends on his will to distance himself from semiotic theories which assign priority to the verbal sign system precisely, that is, from those theories which assert that nonverbal sign systems depend on the verbal. Hence, distinguishing language from nonverbal sign systems, Rossi-Landi intends to recognize

> [their] reciprocal structural independence and at the same time [their] reciprocal influence. This does not mean that there was no hierarchy imposed by real needs on sign systems;

1 For a more articulated analysis about the biological origin of *homology*, see Borrelli (2019).

2 Rossi-Landi structures this category in line with the Marxian category of *gesellschaftliche Reproduktion* – i.e. *social reproduction*.

> but it does mean that all basic social sign systems are 'primary modeling systems' – according to the terminology of Lotman, who considers primary only the system of language, and secondary instead all non-verbal sign systems. (Rossi-Landi 1977: 18)

Let us focus on this latter concept. Rossi-Landi is referring to the theory of Jurij Lotman (1922–1993) – the founder of Moscow-Tartu School of Semiotics – and he is criticizing the fact that this theory only considers *verbal language* as a primary modeling system. To explain this argument, it is necessary to briefly refer to the theory of Thomas Sebeok (1920–2001).

Modifying the notions of primary and secondary modeling systems as structured by the Moscow-Tartu School, Sebeok develops a *modeling systems theory* (Sebeok and Danesi 2000) based on three levels: *primary*, *secondary*, and *tertiary*. According to Sebeok, the *primary modeling system* "allows organisms to *simulate* something in species-specific ways" (Sebeok and Danesi 2000: 45) and the human animal shares such a *device* with the other species; indeed, every living being uses its "*sensorium*" (Sebeok 2003: 174) – that is, the totality of its senses – to structure a sign system through which an interpretation of – and a life in – the external word can be possible.

Nevertheless, the human species distinguishes itself from others exactly in its typical and innate capacity for *simulative modeling*. This typical and innate capacity is *language*, whose fundamental property consists in what Sebeok defines as *syntax* (Sebeok 2003: 178), that is, the ability to generate an indefinite number of meaningful signs, using a limited number of "construction pieces" (Ponzio and Petrilli 2004: 215). This means that human beings by means of their primary modeling system can attribute to the same object a potentially infinite number of meanings.

From such a perspective, the term "language" does not refer to the verbal sign system, but rather to "a mute verbal modeling system" (Sebeok 2003: 175) which *Homo habilis* – the first species of the genus "*Homo*" – "must have had lodged in its brain, but it could not encode it in articulate, linear speech" (Sebeok 2003: 175). Indeed, it will only be with the appearance of *Homo sapiens* that this modeling system is externalized and *speech* arises as the *secondary modeling system*.

According to Sebeok, "language evolved as an adaptation, whereas speech developed out of language as a derivative 'exaptation'" (Sebeok 2003: 176); this means that, in the course of the hominization process, language "was built by selection for the cognitive function of modeling" (Sebeok 2003: 176), and only with the appearance of the *Homo sapiens* did such a primary system "[come]to be 'exapted' [that is, transformed in its function] for communication, first in the form of speech (and later of script, and so forth)" (Sebeok 2003: 176).

Thus – according to Sebeok – becoming a communication-oriented device, language enhances the nonverbal capacity with which human beings were already endowed, allowing them to operate both on the verbal and nonverbal level (see Sebeok 1998: 25); in this way, using this enhanced capacity, human animals can structure their *tertiary modeling system*s; and, from these highly abstract, symbol-based modeling processes, human *cultural systems* finally emerge.

From such a perspective, Sebeok can affirm that what the Moscow-Tartu School calls *primary*, that is, the verbal sign system, is "phylogenetically as well as ontogenetically secondary to the nonverbal; and, therefore, what they call 'secondary' is actually a further, tertiary augmentation of the former" (Sebeok 2003: 175).

In the light of all these theses, it should be clear that, when Rossi-Landi asserts that verbal and nonverbal sign systems are both primary modeling systems, he draws attention to the fact that the syntactical capacity is *incorporated* – as Sebeok (2003: 178) would say – in both of them. To explain such a thesis, Rossi-Landi takes as an example a common human utensil: a table knife.

According to Rossi-Landi a knife – like every *utensil* – has "the level of complexity and the utility [...] of a proper *sentence* [...]. The utensil in fact consists in parts which are produced and put together according to certain rules, like the sentence" (Rossi-Landi 1977: 22). Furthermore, every use of a certain utensil – or, as I intend to illustrate, every *work* that could be done with that utensil – is equivalent to everything with which the utensil "can be put into a real relation" (Rossi-Landi 1977: 22). This means that a kind of "language of things" (Rossi-Landi 1977: 22) actually exists, and this language coincides with a certain system of *syntactic relations* between utensils and other things; e.g. relations between utensils and materials, or between utensils and other utensils. These set of relations can be considered as a "nonverbal sign system" (Rossi-Landi 1977: 22).

This latter assumption introduces the other pair of concepts implied in Rossi-Landi's homology: *work* and *material production*.

2.2 Work/material production

Emphasizing that every utensil is syntactically structured – just like a sentence – and that *different utensils could be syntactically related according to certain uses* – just like verbal discourses – Rossi-Landi maintains that both verbal and nonverbal sign systems could be analyzed in the light of the Marxian

conception of work: more precisely, the human capacity to generate, communicate, and interpret articulated sounds can be understood as *linguisticwork*,[3] a kind of work representing a further genetic development of human capacity to generate, communicate, and interpret meaningful signs in general (hence, nonverbal signs also); the Italian semiotician defines this capacity as "*sign work*."

In this regard, Rossi-Landi suggests that André Leroi-Gouhran's (1911–1986) research could confirm the *genetic precedence* of the sign work in the hominization process. Indeed, the French paleontologist maintained that, from the most primitive technical levels, construction of utensils is *planned*; namely, according to Leroi-Gouhran, all the operations through which an artefact is constructed are executed with a view to its *future* utilization (Rossi-Landi 2006 [1985]: 228).

In semiotic terminology, we could say that the process through which human beings *design* and produce artefacts coincides with the *abstractive process* through which human beings *interpret* their needs; therefore, production of artefacts should be understood as a fundamental manifestation of our species-specific *interpretative* work. This means that every human artefact should be interpreted as a *medium* – an *interpretative* medium – to satisfy a certain human need. As Marx would say: whether the need arises "from the stomach or from imagination, makes no difference" (Marx 2002: 3).

Nevertheless, before proceeding with the analysis of the concepts of work and material production, another terminological clarification is necessary. As we know, in a footnote to the fourth German edition of *Capital* (Vol. 1), Friedrich Engels (1820–1895) proposes a terminological distinction between *work* and *labor*: "the English language has the advantage of possessing two separate words for these two different aspects of labor [*Arbeit*]. Labor which creates use-values and is qualitatively determined is called 'work' as opposed to 'labor';

3 As already observed, Rossi-Landi uses the adjective "linguistic" referring to the verbal sign systems, but he clarifies that such a term could refer implicitly also to non-verbal communication and nonverbal sign systems; nevertheless, in this latter case, "linguistic" should be replaced by the more precise term "sign-communicative" [*segnico-comunicativo*] (Rossi-Landi 2006 [1985]: 116). Indeed, analyzing certain aspects of social reproduction from a semiotic perspective implies the fact that those same aspects *are* considered as "sign-communicative"; therefore, the use of "sign-communicative" referring to nonverbal sign systems like *work*, *exchange*, *consumption*, and so on (e.g. "sign-communicative work") is, actually, a pleonasm. Thus, when Rossi-Landi uses the formula "linguistic work," he draws attention to the fact that verbal language presents certain characteristics and articulations which are typical of work, understood in a Marxian perspective.

labor which creates value and is only measured quantitatively is called 'labor', as opposed to 'work'" (Engels in Marx 2002: 2254, note 16).

In line with this distinction, Rossi-Landi declares his preference for *work* as a "fundamental term" (Rossi-Landi 1977: 6, note 1) for two reasons: a) because "*generic* work, productive of values, [should be] considered as a derivation from" (Rossi-Landi 1977: 6, note 1) the work producing use-values; furthermore, the idea of *linguistic work* defines "specific" (Rossi-Landi 1977: 6, note 1) work producing a peculiar type of artefacts, i.e. *verbal messages*. The other reason *b)* is strictly connected with a translation problem: "'work' can be used together with 'worked' and 'works', while the same derivations from labor would bear different meanings" (Rossi-Landi 1977: 6, note 1).

Nevertheless, Rossi-Landi prefers the term *work* even to designate concepts which refer to a "more generic activity" (Rossi-Landi 1977: 6, note 1). Indeed, explaining the possibility of applying *labor value-theory*[4] to the linguistic sphere, Rossi-Landi confirms this terminological choice, defining "abstract human *labor*" (Marx 2002: 44, emphasis mine) as "undifferentiated work" (Rossi-Landi 1977: 52, note 12). The same can be said of the term *Arbeitsprozeß*. This concept is usually translated as "*labor process*" (see, e.g., Marx 2002: 448); but instead, Rossi-Landi renders "*Arbeitsprozeß*" as "working process" (Rossi-Landi 1977: 39).[5]

The term labor process designates the "process by which man mediates, regulates and controls his metabolism with nature through his own actions" (Marx 2002: 450). More specifically, this concept refers to the *purposeful activity* [zweckmässige Tätigkeit] by which human beings *produce use-values* – i.e. instruments and goods – to satisfy their needs, transforming the environment in which they live. Obviously, this species-specific human ability can be observed in every form of society and in every historical epoch. Thus, it is possible to affirm that the labor process is a factor which all societies have in common. Indeed, as Marx states,

4 Rossi-Landi declares his will to retain the term *labor* in this "stereotyped" (Rossi-Landi 1977: 54, note 1) expression.

5 In this regard, consider that the categorical overlapping between the Marxian categories of *labor in general* and *abstract labor* is a completely different problem (see Arthur 2013; Fineschi 2001). This is a recurring mistake in several Marxist interpretations, and Rossi-Landi reproduces this same error in his turn (see Borrelli 2018). Nevertheless, this overlapping is completely independent from the use of *work* or *labor*; that is, it is an error deriving from theoretical misinterpretations, rather than from terminological or translation choices.

> The labor-process [*Arbeitsprozeß*] [...] is purposeful activity [*zweckmässige Tätigkeit*] with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or is common to every such phase. (Marx 2002: 472)

2.3 Language and work: A dialectical relation

All these terminological and categorical clarifications contribute to explaining how Rossi-Landi posits the dialectical (and homological) relation between language and work.

According to Rossi-Landi, *language is work* because human (verbal and nonverbal) signs do not exist *in nature* (see Rossi-Landi 1977: 31–32); therefore, they should necessarily be products of *human mediating and transformative praxis*, i.e. products of human labor. Furthermore – as Rossi-Landi underlines – the practical-communicative use of language presents the same *elements* composing the "*labor process*" as defined by Marx (2002: 453): the *activity conforming to a goal* [*zweckmässigeTätigkeit*], the *object* [*Gegenstand*] – i.e. the *material* – on which work is applied, the work *instrument* [*Mittel*], and the *product* [*Produkt*] of work. From such a perspective, language can be understood as a) work *oriented* by signs, i.e. work conforming to certain rules (e.g. grammatical, syntactical, pragmatic, and so on) and oriented toward specific goals (e.g., communicative goals); b) work performed on signs, constituting the *material* on which work is applied; and c) work performed by means of other signs, constituting the work instruments. To sum up, it is the work that every human being performs when s/he *produces* – or *uses* – a certain sign to *interpret* – or, more specifically, to *talk about* – another sign.

On the other hand, the fact that work is *goal oriented*, i.e. *purposeful activity* [*zweckmässige Tätigkeit*], implies the presence of *language*. In fact, that goal is actually a *sign*, that is – as Rossi-Landi maintains – "a conscious or unconscious, desired or endured, 'mental' anticipation of the product" (Rossi-Landi 1977: 40), namely, a *design* or a *project*. Without language – understood in its verbal and nonverbal dimension – no kind of goal-oriented activity could take place. Without meaning-making, communicative, and interpretative processes, no kind of work project or cooperation in the workplace would be possible. This is the reason why language "determines the finalistic character of work, its taking place according to a *program*" (Rossi-Landi 1977: 40, my italics); and a program is always no less than an organized part of a certain sign system, that is, a set of

instructions which are more or less implicit in every labor process. Therefore, work is *inherently* linguistic, or semiotic at least. In this sense, *work is language*.

3 Semiotic approaches to artefacts and objects of use

In this section I will try to connect Rossi-Landi's homological theory with other classic and more recent semiotic approaches.

3.1 A Peircean approach to the *artefact*

We have seen that every *artefact* – or, adopting Marxian terminology, every *use-value* – is produced and used to satisfy – or, semiotically speaking, to *interpret* – a certain human need. Therefore, the dialectical relation between production and use (i.e. *consumption*) of artefacts can be understood as an *interpretative process*. Nevertheless, to understand concepts like *interpretation*, or *interpretative process*, we must refer to a fundamental theory, that is, Charles Sanders Peirce's (1839–1914) semiotics. In this regard, it would seem necessary to start with the Peircean definitions of *sign*, underlining the fact that – according to Peirce – every sign is characterized by a *triadic structure*. More precisely, the sign may be understood as a *continuum* in which some *discrete parts* can be identified. These are *a*) the *sign* – or, more precisely, its *representamen*, *b*) the *object*, and *c*) the *interpretant*. Actually, Peirce defines a sign "as anything which is so determined by something else, called its Object, and so determines an effect upon a person, which effect I call its Interpretant, that the latter is thereby mediately determined by the former" (Peirce 1908: SS 80-81).

According to the Italian semiotician Giampaolo Proni (2002, 2012), artefacts can be analyzed in the light of this threefold partition.

What we could define as the *body* – or, as Proni specifies, the "material quality" (Proni 2002: 40) – of the artefact coincides with its *representamen*.

The *object* of the artefact *describes* how to use that material quality in order to obtain certain general goals (see Proni 2002: 40). From this perspective, an artefact can be understood as a sign characterized by a particular *object*: this object is a *practical function*. This means that an artefact *is* an artefact if "such a function can actually be performed" (Proni 2002: 40). An artefact, i.e. an *object of use*, must *function*, it must *work*.

What to understand as the interpretant of the artefact is yet to be explained. According to Proni, the interpretant is the *response* which the function induces in the *user* – that is, in the *interpreter* of the practical function. More precisely, this response coincides with "appropriate behavior" (Proni 2012: 41, my translation) toward the artefact. This means that the *producer* of the artefact – a single person or a specific organization – plans that the *user* should perform a specific sequence of actions in *using* the artefact. This sequence of actions coincides with the *behavior* considered as *appropriate*.

In this regard, interesting to underline is that Rossi-Landi explicitly connects the concept of *use* with the concept of *behavior*: "*using* an object means *behaving toward* that object" (Rossi-Landi 2006 [1985]: 161, my translation). Therefore, interpreting how the artefact should work, and how it should be used, the user interprets the specific *programs inscribed* in the artefact by the producer. Use of the verb *to inscribe* could appear as completely metaphorical, but it should be clear that the term refers to the *syntactical* capacity of generating – we could say, *writing* – meaningful signs and *programming*, as Rossi-Landi would say, "the behavior of pieces of matter" (Rossi-Landi 1977: 95), i.e. the capacity of organizing a specific portion of the external (living or nonliving world) according to a specific sign system.

3.2 Semiotics of *assemblies*

Bruno Latour and Madeleine Akrich (1992) adopt a similar model to describe what they define as *assemblies* – that is, the relationships between human beings and *technical objects*.

1) The *producer* – who the authors call *scribe*, e.g. an engineer, an inventor, a manufacturer, or a designer – *in-scribes* a program in a certain artefact (or technical object).
2) The *artifact prescribes*: that is, it *allows* or *forbids* the user certain actions.
3) The *user* can *sub-scribe* to the program of the artefact, accepting the competences and performances implied in its use. Or, conversely, the user can *de-inscribe* from the program, refusing those competences and performances. Moreover, the user can *re-inscribe* new programs in the artefact, redistributing or inventing competences and performances.
4) The *analyst de-scribes* the totality of this process.

In my opinion, this semiotic relation may be understood in terms of the processes of *writing* and *reading* the *instructions* – or, as the authors would say, the *script* – *contained* in a certain artefact.

3.3 Artefacts as systems of inferences

Probably, this dialectics between *inscription* and *subscription/de-inscription* can be further explained by adopting a reinterpretation of the Peircean theory; I am referring to the model of *semiosis* as structured by Charles Morris (1901–1979).

According to Morris, "the process in which something functions as sign may be called semiosis" (Morris 1938: 3). To describe such a process he constructs a set of *special* or *technical* terms, such as: *sign vehicle*, *designatum*, *denotatum*, *interpretant*, and *interpreter*; each of these terms expresses a *relational property* that a certain thing assumes "by participating in the functional process of semiosis" (Morris 1938: 4).

Semiosis is an *interpretative process* which takes place every time a subject – the *interpreter* – *infers* that a certain object (a *sign vehicle*) is *related*, under a certain aspect (for example, on the basis of a *causality* relationship), with something else (a designatum/denotatum), and in such a way that the first object is a sign of the other object. This particular relationship inheres the *semantic dimension* of semiosis.

The interpreter generates an *interpretant* when he/she *takes account of* the relation between the sign vehicle and the designatum/denotatum. This further relationship inheres the *pragmatic dimension*. Finally, the *syntactic dimension* coincides with the *structure* of *logical* and *formal relationships* between different sign vehicles (see Morris 1938: 13–21).

These three dimensions – i.e. the three dimensions of the *sign* – are simultaneously involved in every process of semiosis, that is, every time a sign is generated and interpreted, the *meaning* of the sign – according to Morris – coincides with the system of relations between the three dimensions.

Taking account of the connection between sign vehicle and designatum, the interpreter expects that every time a certain sign vehicle *appears* in front of him/her, that vehicle should designate a *class* (see Morris 1938: 5) *of certain objects*, or *events*. If the interpreter detects one member of the class at least, the sign vehicle has its denotatum. As Morris says, "to the degree that what is expected is found as expected the sign is confirmed" (Morris 1938: 33). In this case, it can be possible to affirm that "signs are 'true' in so far as they correctly determine the expectations" (Morris 1938: 33) of their interpreters.

An example can clarify this latter assumption. Let us consider the utterance "there is a cat in the kitchen" as a *sign vehicle*.[6] There is a *possibility* that a cat could actually be in the kitchen; such a possibility constitutes the *designatum* of the utterance. Connecting that utterance (sign vehicle) with that possibility (designatum), the interpreter *expects* that a cat could be in the kitchen, and this expectation coincides with the *interpretant*. *If* the interpreter finds a cat in the kitchen, *then* his/her expectation will be satisfied, and there will be a *denotatum* for the possibility *designated by* the sign vehicle. From such a perspective, the utterance should be considered as *true*. Therefore, in line with Peirce's semiotics, Morris supposes that every interpretative process is based on *inferences* (see Eco 1984: 4), and – consequently – that every sign-relation (i.e. the relation between *sign vehicle*, *designatum/denotatum*, and *interpretant*) is always subject to possibility and uncertainty.

I believe that this model can be appropriately applied to the semiotics of artefacts, analyzing the relation between *production* and *use* (or *consumption*) as a system of inferences. More specifically, on the one hand, it is possible to understand the *production* of an artefact as based on this inference: "*if* the *user* (*interpreter*) *correctly follows* (*interpretant*) the *instructions* (*designatum*), *then* the *artefact* (*sing-vehicle*) will properly work, and *the program of use will be confirmed* (*denotatum*)." On the other hand, it is possible to understand the *use* of an artefact as based on this inference: "*if* I (*interpreter*) want to obtain *certain goals* (*denotatum*) using the artefact, *then* I have to *follow* (*interpretant*) the *instructions* (*designatum*)."

In the light of this consideration, the object of the artefact – that is, what the artefact can *possibly* signify, its *possible* designatum – may be understood as a *bidirectional process*: "on one side the Object is the production process, which represents the artefact's past, the chain of causes and effects that produced it as a material entity; on the other side the Object is the possible interaction, or use-program, that is, its future" (Proni 2002: 43).

From such a perspective, the *production process* and the *function* – that is, the *use-program* – of the artefact should be understood as two discrete moments of the same *semiotic* continuum; the body of the artefact constitutes the *material event* which temporarily interrupts this continuum. As Proni states:

6 Rossi-Landi gives this example in a footnote (note 99, 136–137) of the Italian translation (1954) of Morris' *Foundations of the theory of sign*. Rossi-Landi is the Italian translator and editor of this work by Morris.

> Use and production are the two directions of the causal line on which the artefact is placed as a material event. The production is the chain of causes and effects that have brought the artifact into existence. The use is the chain of possible and probable causes and effects in which the artifact will be involved. In this chain the descriptions of two subjects are inscribed: the *model user* and *the implied producer*. (Proni 2002: 48)

Proni outlines these two types of subjectivity starting from Umberto Eco's (1932–2016) semiotics. The *model user* is the subject who is invoked to interpret the function *in-scribed* – as Akirch and Latour would also say – in the artefact by the *model* (or *implied*) *producer*. Adopting the categories of Eco's semiotics, Proni intends to illustrate that an artefact can be analyzed as a particular form of *textuality*; indeed, just like every form of textuality, an artefact presupposes two subjectivities: *a*) a *writer* who *plans* and *designs* how the artefact must work; a subject who *writes* the instructions of that artefact; and *b*) a *reader* who must be able to follow the instruction written by the producer to achieve certain goals.

It should be evident that this theoretical model presents certain fundamental convergences with the semiotics of assemblies as structured by Akrich and Latour. Nevertheless, I believe that all these theses can be also analyzed in the light of Rossi-Landi's materialistic semiotics.

4 Use as linguistic work

Referring to analysis of the *dialectical relation* between production and use as structured by Marx in his 1857 "Einleitung",[7] Rossi-Landi underlines that the artefact constitutes the crossroads at which the two dimensions of work and use (or consumption) converge.[8] According to Rossi-Landi, the relation between production and use constitutes "a typical dialectical situation of unity-distinction. Use *is* work; at the same time, use is distinguished from work" (Rossi-Landi 1977: 44).

Why can it be possible to understand the use of an artefact as work? Because – according to Rossi-Landi – every time a certain artefact is used, certain "programmed operations take place" (Rossi-Landi 1977: 44). This means that the concept of *use-consumption* can be included in the Marxian acceptation of work as *zweckmässige Tätigkeit*: work is a goal-oriented activity, and it can be *goal oriented* only if it takes place according to a *program*. Use is in its turn based on specific programs, therefore "use is work" (Rossi-Landi 1977: 44).

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7 As is well known, the 1857 "Einleitung" is the introduction to Marx's *Grundrisse* (1857–1858).
8 For an in-depth analysis, see Borrelli (2014).

To explain this dialectical relation, Rossi-Landi describes the artefact as a *process* constituted by four elements: "(i) models for production, (ii) tokens of these models, (iii) programs for the use of the tokens, (iv) execution of these programs" (Rossi-Landi 1977: 45). Distinguishing between *models*, *programs*, *tokens,* and *executions*, "we may be able to clarify the relations between productive work and use" (Rossi-Landi 1977: 43). From a very general point of view, "production regards both the models and the programs, both the tokens and the executions. When we produce a token we do it according to a model; when we behave in a certain way, we do it according a program; the model and, respectively, the program are thus confirmed, reproduced in the token and execution" (Rossi-Landi 1977: 43).

To sum up, production of models and programs is production of tokens and executions; production of tokens and executions is reproduction of models and programs. Obviously, models and programs are in their turn produced by following other models and programs (see Rossi-Landi 1977: 43). Nevertheless, "if, from the level of productive work, anterior to the artefact, we move to the level of use, subsequent to the artefact, we find that the use also takes place according to our models or programs" (Rossi-Landi 1977: 43).

Indeed, the important aspect of this dialectical relation between production and reproduction consists in the fact that the working process is not concluded with the realization of a certain token. On the contrary, work continues, taking the shape of execution of programs. According to Rossi-Landi

> Work is irradiated, distributed and deposited on all this in unequal ways; at the same time it is what holds everything together. We have work in the most commonly accepted sense in the production of tokens, it is usually admitted that the production of their relative models is also work. That also the production of programs for use, and especially their execution, is also work, may sound irksome to some ears. (Rossi-Landi 1977: 45)

Therefore, "we cannot use an artefact without at the same time following a program of use, with the aim of realizing it. In this sense, the work done with an artefact is 'only' an execution. But the execution sends us back necessarily to the production of that very artefact" (Rossi-Landi 1977: 44). In the light of this consideration, it should be clear why, according to Rossi-Landi, use is work: because, as stated, by using an artefact, specific "programmed operations take place" (Rossi-Landi 1977: 44). In this sense, "productive work and use are always interwoven to the point of seeming inextricable" (Rossi-Landi 1977: 44); and "the only method for distinguishing use from work [...] consists in saying that, given a certain artefact, use is subsequent to it while work is anterior to it. The artefact is here only a milestone for making the distinction. *Use is work subsequent to the artefact*" (Rossi-Landi 1977: 44–45).

5 Conclusion

I would like to conclude with the following consideration. Reading the theses put forward so far, it could seem that a kind of perfect circularity characterizes the dialectics between production and use (i.e. consumption). It could seem that every object of use is perfectly designed, that it can perform perfectly according to the established project, that it works without any glitches. Furthermore, it would seem that the instructions for the artefact are easy to follow and that the interpreter cannot make any mistake in using it. To sum up, it would seem that the programs of use are easy to interpret and that, in turn, they efficaciously interpret the real needs of the users. Obviously, we all know that reality and everyday praxis differ from these *ideal* representations.

However, all theories mentioned so far know well that a certain artefact can malfunction, or can be difficult to use, or that the user may not have the competence and the ability to use a certain artefact. In all these contradictory cases, the semiotic relation between signs – i.e. programs – and artefacts emerge, we could say *dialectically*. In this regard, let us think about the so-called *planned obsolescence* of commodities. We could say that this economic strategy seems to in-scribe another program in the *body* of the artefact: the object of use is not only designed to interpret a need of the user, but it is also planned to become "obsolete" and to be replaced by another new object of use. From such a perspective, the dialectics between production and consumption seems to be subject to another semiotic and economic process: the *valorization of capital*.

In my opinion, in underlining the inextricable relationships between artefacts (or, objects of use) and signs (in the form of programs) and analyzing the modalities through which human beings and artefacts reciprocally interact, different theoretical and methodological approaches can reveal the inherent semiotic character of that peculiar nonverbal communication called *economy*.

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Bionote

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