
Semiotics: A Critical Science and/or a Critique of Science

Written in 1968 and published in *Σημειωτική [Séméiotiké]. Recherches pour une sémanalyse* (Paris: Seuil, 1969), this essay focuses on two main problems: (1) semiotics as a critical science and (2) the concept of *production* as the crucial connection between Marx, Freud and semiotics (or semanalysis). The importance of the article lies in its efforts to situate semiotics clearly within a double, Marxist and Freudian, intellectual space. Itself produced in a year of revolt, the essay presents semanalysis as a critical, political practice necessarily engaged in the subversion of the traditional order.

Discussing the critical impact of semiotics, Kristeva argues that it is not only a linguistic theory, but, crucially, a theory formation which necessarily theorizes its own production of theories: semiotics, in other words, can only exist as a critique of semiotics. The theoretical models of *any* science, including semiotics, are representations. It is because semiotics is the only science specifically concerned with the elaboration of a *theory* (i.e., a formalized representation) of representation, Kristeva argues, that it becomes inherently self-reflexive. Adopting models and terms from other sciences (preferably from the so-called 'hard' sciences which are not caught up in traditional, humanist and subjectivist categories), semanalysis nevertheless ceaselessly subverts and transforms the meaning of the terms it appropriates. Thus it also becomes a critique of other sciences, demonstrating how science is always constructed in and through ideology. In this way, semiotics can be said to continue the critical tradition first established by Marx. But Marx's critique of political economy also constitutes the prototype of 'classical' semiotics, in that Marx presents an economy or society (a signified) as a permutation of elements (signifiers).

Semiotics, however, goes further than Marx, who remained unable to analyse production other than from the perspective of the *products* (social value, circulation of goods and of money), in spite of the fact that his own theory of use value adumbrates a different mode of analysis: one that focuses on

production seen 'from the inside'. This perspective, however, was never fully grasped by Marx and remained untheorized until Freud showed how dreams can be analysed as *work*, or in other words, as *processes*. Through its appropriation of Freud, semanalysis moves beyond the Marxist problematics, while still remaining faithful to its critical, anti-capitalist perspective. Thanks to Freud, semiotics is now able to analyse the *alterity* of its object: that 'other scene' where our desires are enacted *before* they become language, communication or product. The paradox of semiotics can here be seen to re-emerge (see 'From Symbol to Sign'): semiotics is established as a science which seeks to represent that which per definition cannot be represented: the unconscious.

Finally, Kristeva argues that although *literature* as a specific, highly valorized category cannot exist for semiotics (it simply becomes one among many forms of signifying practices), semiotics can and ought to learn from the modernist texts which since the late nineteenth century have perceived themselves as *production* rather than as *message* or *product*. The insights gained from work on such texts can then be used to analyse what Kristeva calls the *social text* as a series of transformations and/or productive processes.

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In a decisive move towards self-analysis, (scientific) discourse today has begun to re-examine languages in order to isolate their (its) models or patterns. In other words, since social practice (the economy, mores, 'art', etc.) is envisaged as a signifying system that is 'structured like a language', any practice can be scientifically studied as a secondary model in relation to natural language, modelled on this language and in turn becoming a model or pattern for it.¹ It is in this precise area that semiotics today is articulated or rather is searching for its identity.

We shall attempt to isolate a few of the characteristics which give semiotics a precise place in the history of knowledge and ideology, a place which makes this kind of discourse a clear register of the cultural subversion which our civilization is undergoing. These characteristics account for the barely disguised animosity of the bourgeois word (or 'conscience') in its various guises (ranging from esoteric aestheticism to scientific positivism, and from 'liberal' journalism to a restrictive

sense of 'commitment') which calls this research 'obscure', 'gratuitous', 'schematic' or 'impoverishing', when it doesn't actually recuperate the lesser by-products of this inquiry by seeing it as a kind of harmless fringe activity.

Faced with the expansion (and the oppositional nature) of semiotics, we must formulate a theory of its evolution that will place it within the history of science and thought about science, and link up with the epistemological research at present being undertaken seriously only in the Marxist work written or inspired by Louis Althusser. The following notes are no more than an indication of this necessity. I shall therefore say less about the nature of semiotics than about its potential.

I Semiotics as the making of models

As soon as we try to define this new form of research, the complexity of the problem becomes apparent. For Saussure, who introduced the term (*Course in General Linguistics*, 1916), *semiology* designated an enormous science of signs of which linguistics was only a part. But it soon became clear that whatever semiology's sign-object happens to be (gesture, sound, image, etc.) it can only be known through language.² It follows that 'linguistics is not part of the general science of signs, not even a privileged part; rather, it is semiology which is part of linguistics, and specifically that part responsible for the large signifying units of speech'.³ It is not possible here to discuss the advantages and disadvantages of this significant reversal which itself is destined to be modified precisely because of the new openings it has made possible.⁴ Following the example of Jacques Derrida, we shall indicate the scientific and ideological limitations which the phonological model risks imposing on a science that aims to offer a model for translinguistic practice. But we shall none the less retain the fundamental gesture of semiotics: a formalization or production of models.⁵ Thus, when we say semiotics, we mean the (as yet unrealized) development of *models*, that is, of formal systems whose structure is isomorphic or analogous to the structure of another system (the system under study).⁶

In other words, by borrowing its models from the formal sciences (such as mathematics or logic, which in this way are reduced to being a branch of the vast 'science' of language-models), semiotics could eventually become the axiomatization of signifying systems, without being

hindered by its epistemological dependence on linguistics. The latter could then in turn renew itself by adopting these models.

In this sense, rather than speak of a semiotics, we prefer to talk of a semiotic level, which is that of the axiomatization, or formalization, of signifying systems.⁷

By defining semiotics as the production of models, however, we not only designate its object, but also touch on the characteristic that distinguishes it from the other 'sciences'.⁸ The models elaborated by semiotics, like those of the exact sciences, are representations and, as such, are produced within spatio-temporal coordinates.⁹ But this is where semiotics differs from the exact sciences, for the former is also the production of the theory of its own model-making, a theory which in principle can accommodate that which does not belong to the order of representation. Obviously, a theory is always implicit in the models of any science. But semiotics manifests this theory, or rather cannot be separated from the theory constituting it, that is, a theory which constitutes both its object (the semiotic level of the practice under study) and its instruments (the type of model corresponding to a certain semiotic structure designated by the theory). In each particular case of semiotic research, a theoretical reflection isolates the signifying function being axiomatized, which is then represented in a formal manner. (Note that this action is synchronic and dialectic, and is only called diachronic in order to ease representation.)

Semiotics is therefore a mode of thought where science sees itself as (is conscious of itself as) a theory. At every instant of its production, semiotics thinks of its object, its instruments and the relation between them, and in so doing thinks (of) itself: as a result of this reflection, it becomes the theory of the very science it constitutes. This means that semiotics is at once a re-evaluation of its object and/or of its models, a critique both of these models (and therefore of the sciences from which they are borrowed) and of itself (as a system of stable truths). As the meeting-point of the sciences and an endless theoretical process, semiotics cannot harden into a science let alone into *the* science, for it is an open form of research, a constant critique that turns back on itself and offers its own auto-critique. As it is its own theory, semiotics is the kind of thought which, without raising itself to the level of a system, is still capable of modelling (thinking) itself.

But this reflexive movement is not a circular one. Semiotic research

remains a form of inquiry that ultimately uncovers its own ideological gesture, only in order to record and deny it before starting all over again. 'No key to no mystery', as Levi-Strauss said. It begins with a certain knowledge as its goal, and ends up discovering a *theory* which, since it is itself a signifying system, returns semiotic research to its point of departure, to the model of semiotics itself, which it criticizes or overthrows. This tells us that semiotics can only exist as a *critique of semiotics*, a critique which opens on to something other than semiotics, namely *ideology*. Through this method, which Marx was the first to practise, semiotics becomes the moment when the history of knowledge breaks with the tradition for and in which

science exhibits itself as a *circle* returning upon itself, the end being wound back into the beginning, the simple ground, by the mediation; this circle is moreover a *circle of circles*, for each individual member as ensouled by the method is reflected into itself, so that in returning into the beginning it is at the same time the beginning of a new member. Links of this chain are the individual sciences (of logic, nature and spirit), each of which has an *antecedent* and a *successor* – or, expressed more accurately, *has only the antecedent and indicates its successor in its conclusion.*¹⁰

Semiotic practice breaks with this teleological vision of a science that is subordinated to a philosophical *system* and consequently even destined itself to become a system.¹¹ Without becoming a system, the site of semiotics, where models and theories are developed, is a place of dispute and self-questioning, a 'circle' that remains open. Its 'end' does not rejoin its 'beginning', but, on the contrary, rejects and rocks it, opening up the way to another discourse, that is, another subject and another method; or rather, there is no more end than beginning, the end is a beginning and vice versa.

No form of semiotics, therefore, can exist other than as a critique of semiotics. As the place where the sciences die, semiotics is both the knowledge of this death and the revival, *with* this knowledge, of the 'scientific'; less (or more) than a science, it marks instead the aggressivity and disillusionment that takes place within scientific discourse itself. We might argue that semiotics is that 'science of ideologies' suggested in revolutionary Russia,¹² but it is also an ideology of sciences.

Such a conception of semiotics does not at all imply a relativism

or agnostic scepticism. On the contrary, it unites with the scientific practice of Marx to the extent that it rejects an absolute system (including a scientific one), but retains a scientific approach, that is, a development of models doubled by the theory underlying the very same models. Created as it is by the constant movement between model and theory while at the same time being situated at a distance from them (thus taking up a position in relation to current social practice), this form of thought demonstrates the 'epistemological break' introduced by Marx.

The status here given to semiotics has consequences for: (1) the specific relation of semiotics to the other sciences and especially to linguistics, mathematics and logic from whom it borrows its models; and (2) the introduction of a new terminology and the subversion of the existing terminology.

The semiotics concerning us here uses linguistic, mathematical and logical models and *joins* them to the signifying practices it approaches. This junction is as theoretical as it is scientific, and therefore constitutes a profoundly ideological fact which demystifies the exactitude and 'purity' of the discourse of the so-called 'human' sciences. It subverts the exact premises of the scientific process, such that for semiotics, linguistics, logic and mathematics are 'subverted premises' which have little or nothing to do with their status outside semiotics. Far from being simply a stock of models on which semiotics can draw, these annexed sciences are also the object which semiotics *challenges* in order to make itself into an explicit critique. Mathematical terms such as 'theorem of existence' or 'axiom of choice'; terms from physics like 'isotope'; linguistic ones such as 'competence', 'performance', 'generation' or 'anaphora'; terms from logic such as 'disjunction', 'ortho-complementary structure', etc. can acquire a different meaning when taken out of the conceptual field in which the retrospective terms were conceived and applied to a new ideological subject, such as that of contemporary semiotics. Playing on this 'novelty of non-novelty', or on the different meanings a term acquires in different theoretical contexts, semiotics reveals how science is born in ideology: 'The new object may well still retain some link with the old ideological object, *elements* may be found in it which belong to the old object, too: but the meaning of these elements changes with the new *structure*, which precisely confers to them their meaning. These apparent similarities in isolated elements may mislead a superficial glance unaware of the

function of the structure in the constitution of the meaning of the elements of an object.’¹³ Marx practised this subversion of the terms of a preceding science: to the mercantilists, ‘surplus-value’ ‘arises out of the addition to the value of the product’. Marx gave the same word a new meaning: in so doing he brought to light ‘the novelty of the non-novelty of a reality which appears in *two different discourses*, i.e., the question of the theoretical modality of this “reality” in two theoretical discourses’.¹⁴ But if the semiotic approach provokes this displacement of meaning in terms, why use a terminology that already has a strict usage?

We know that any renewal of scientific thought is carried out by and through a renewal of terminology: there is only invention as such when a new term appears, be it oxygen or infinitesimal calculus. ‘Every new aspect of a science involves a revolution in the technical terms (*Fachausdrucken*) of that science. . . Political economy has generally been content to take, just as they were, the terms of commercial and industrial life, and to operate with them, entirely failing to see that *by so doing, it confined itself within the narrow circle of ideas expressed by those terms. . .*’.¹⁵ As semiotics today regards the capitalist system and its accompanying discourse as ephemeral phenomena, it uses terms different from those employed by previous discourses in the ‘human sciences’, when it articulates its signifying practices in the course of its critique. Semiotics therefore rejects a humanist and subjectivist terminology, and addresses itself to the vocabulary of the exact sciences. But, as we have indicated above, these terms have *another* meaning in the new ideological field which semiotic research *can* construct; an alterity to which we shall return. The use of terms from the exact sciences does not erase the possibility of introducing a completely new terminology, at the most crucial points of semiotic research.

II Semiotics and production

So far we have defined the subject of semiotics as a semiotic *level*, as a *section* through signifying practices where the signifier is taken as the model of the signified. This definition in itself suffices in order to designate the novelty of the semiotic process in relation to previous ‘human sciences’ and to science in general: a novelty by means of which semiotics allies itself to Marx’s strategy when he presents an economy or society (a signified) as a permutation of elements (signifiers). If, sixty

years after the appearance of the term, we can speak today of a 'classical' semiotics, it is precisely because its strategies fall under this definition. We none the less feel that we can place ourselves in the *opening afforded* by contemporary thought (Marx, Freud, Husserl) if we define the subject of semiotics in the following more subtle way.

It has already been frequently stressed that the great novelty of Marxist economy was to think of the social as being a particular *mode of production*. Work ceases to be a *subjectivity* or an *essence* of man: Marx replaces the concept of 'a supernatural creative power' (*Critique of the Gotha Programme*) with that of 'production' viewed in its double mode: as a work process, and as the social relations of production whose elements make up a *combinatoire* with its own specific logic. We might say that the possible combinations are the different kinds of semiotic *systems*. Marxist thought is therefore the first to *pose* the problematics of productive work as a major element in the definition of a semiotic system. This occurs, for example, when Marx explodes the concept of 'value' and speaks of it only as a crystallization of social work.¹⁶ He even goes so far as to introduce concepts (surplus-value) which owe their existence to work that is unmeasurable and which themselves are measurable only through their effects (the circulation of merchandise, exchange).

But if Marx sees production as a problematics and a specific structure of meaning [*combinatoire*] that determines the social (or value), it is nevertheless studied only from the point of view of the social (value) and therefore only in terms of the distribution and circulation of goods, and not from the inside of production itself. Marx's work is therefore a study of capitalist society, of the laws of exchange and capital. Within this space and to this end, work is 'reified' into an object occupying a precise place (which, for Marx, is determining) in the process of exchange, but which is none the less examined from the angle of this exchange. In this way, Marx is led to study work as *value*, to adopt the distinction between use value and exchange value, and while still following the laws of capitalist society, to limit himself to a study of the latter. Marxist analysis rests on *exchange value*, that is, on the circulating *product* of work that enters the capitalist system as value ('a unit of work'), and it is in this way that Marx analyses its combinatory forces (workforce, workers, masters, object of production, instrument of production).

Therefore, when he tackles work itself and distinguishes between the different 'work' concepts, he does it from the point of view of circulation:

circulation of a utility (in which case work is *concrete*: 'expenditure of human force in such-and-such a productive form, determined by a particular fact, and consequently of a *concrete* and *useful* nature, producing exchange-values or utilities'¹⁷); or circulation of a value (in which case work is abstract: 'expenditure of human form in the psychological sense'). Let us stress in passing that Marx insists on the relativity and historicity of value and above all of exchange value. Therefore, when he tries to approach use value, in order to escape momentarily from this abstract process of (symbolic) circulation of exchange values in a bourgeois economy, Marx is content to indicate (and the terms used here are very significant) that it concerns a *body* and an *expenditure*. 'Use values, that is, the *body* of goods, are the result of a combination of two elements, matter and work. . . Work is not, then, the only source of the use values, or material riches it produces. It is the *father* and the earth is the *mother*.'¹⁸ 'Quite apart from its usefulness, all productive activity is ultimately an *expenditure* of human force' (my emphasis).¹⁹

Marx states the problems clearly: from the point of view of distribution and social consumption, or, if you like, of *communication*, work is always a value, be it use value or exchange value. In other words: if, in communication, values are always a crystallized form of work, work *represents* nothing outside the value in which it is crystallized. This work-value can only be measured by its own value, that is, by the amount of social time taken to produce it.

Such a conception of work, taken out of its space of production, that is, a capitalist space, can lead to a valorization of production and provoke a pertinent critique from Heideggerian philosophy.

But Marx clearly outlines another possibility: another space where work can be apprehended without any consideration of value, that is, beyond any question of the circulation of merchandise. There, on a scene where work does not yet *represent* any value or *mean* anything, our concern is with the relation of a *body* to *expenditure*. Marx had neither the wish nor the means to tackle this notion of a productive labour prior to value or meaning. He gives only a *critical* description of political economy: a critique of the system of exchange of signs (values) that hides a work-value. When it is read as a critique, Marx's text on the circulation of money is one of the high-points achieved by a (communicative) discourse that can speak only of *measurable* communication, which exists against a background of production that is merely indicated. In

this, Marx's critical reflections on the system of exchange resemble the contemporary critique of the sign and the circulation of meaning: moreover, the critical discourse on the sign acknowledges its similarity to the critical discourse on money. Thus, when Derrida opposes his theory of writing to the theory of the circulation of signs, he writes of Rousseau:

This movement of analytical abstraction in the circulation of arbitrary signs is quite parallel to that within which money is constituted. Money replaces things by their signs, not only within a society but from one culture to another, or from one economic organization to another. That is why the alphabet is commercial, a trader. It must be understood *within the monetary moment of economic rationality. The critical description of money is the faithful reflection of the discourse on writing* [my emphasis].²⁰

It is the long development of the science of discourse, and of the laws of its permutations and annulments, as well as a long meditation on the principles and limits of the Logos as a model for the system of communication of meaning (value), which has enabled us to create this *concept* of a 'work' that 'means nothing', and of a silent production that marks and transforms while remaining prior to all circular 'speech', to communication, exchange or meaning. It is a concept that is formed by reading, for example, texts such as those by Derrida when he writes 'trace', 'gramma', '*différance*' or 'writing before the letter', while criticizing 'sign' and 'meaning'.

In this development, we must note the masterly contribution made by Husserl and Heidegger, but above all by Freud, who was the first to think of the work involved in the process of signification as anterior to the meaning produced and/or the representative discourse: in other words, the dream-process. The chapter-heading from *The Interpretation of Dreams*: 'The Dream-Work', shows how Freud revealed production itself to be a *process* not of exchange (or use) or meaning (value), but of playful permutation which provides the very model for production. Freud therefore opens up the problematics of *work as a particular semiotic system*, as distinct from that of exchange: this work exists within the communicative word but differs essentially from it. On the level of manifestation it is a *hieroglyph*, while on a latent level it is a *dream-thought*. 'Dream-work' becomes a theoretical concept that triggers off a new

research, one that touches on pre-representative production, and the development of 'thinking' before *thought*. In this new inquiry a radical break separates the *dream-work* from the work of conscious thought and is 'for that reason not immediately comparable with it'. The dream-work 'does not think, calculate or judge in any way at all; it restricts itself to giving things a new form'.²¹

This seems to encapsulate the whole problem of contemporary semiotics: either it continues to formalize the semiotic systems from the point of view of communication (in the same way, to risk a brutal comparison, that Ricardo regarded surplus-value from the point of view of distribution and consumption), or else it opens up to the internal problematics of communication (inevitably offered by all social problematics) the 'other scene' of the production of meaning prior to meaning.

If we opt for this second route, two possibilities are offered: either we isolate a measurable and consequently representable aspect of the signifying system under study against the background of an unmeasurable concept (work, production, grammar, trace, *différance*); or else we try to construct a new scientific problematics (in the sense given above of a science that is also a theory) to which this new concept necessarily must give rise. In other words, the second case involves the construction of a new 'science' once a definition has been reached of a new subject: *work* as a different semiotic practice of exchange.

Several events in the current social and scientific environment justify, if not demand, such an endeavour. Irrupting on to the historical scene, the world of work claims its rights and protests against the system of exchange, demanding that 'knowledge' change its perspective so as to transform 'exchange based on production' into 'production regulated by exchange'.

Exact science itself is already tackling the problems of the unrepresentable and the unmeasurable, as it tries to think of them not as 'deviations' from the observable world, but as a structure with special laws. We are no longer in the age of Laplace where one believed in a superior intelligence that was capable of embracing 'in the same formula the movements of the largest bodies and the lightest atoms in the universe: nothing would remain unknown to it, and both future and past would be present in its eyes'.²² Quantum mechanics is aware that our discourse ('intelligence') needs to be 'fractured', and must change objects and structures in order to be able to tackle a problematics that can no longer

be contained within the framework of classical reason. Consequently, one talks of the *unobserved object*²³ and searches for new logical and mathematical models of formalization. The semiotics of production has inherited this infiltration of the unrepresentable by scientific thought and will no doubt use these models elaborated by the exact sciences (polyvalent logic, topology). But since the semiotics of production is a science-theory of discourse and so of itself, and since it tends to emphasize the dynamics of production over the actual product, it consequently rebels against representation even as it uses representative models, and overthrows the very formalization that gives it substance with an unstable theory of the unrepresentable and the unmeasurable. This semiotics of production will therefore accentuate the *alterity* of its object in its relation with the representable and representative object of exchange examined by the exact sciences. At the same time it will accentuate the upheaval of (exact) scientific terminology by shifting it towards that other scene of work that exists prior to value and which can only be glimpsed today.

It is here that semiotic's difficulties lie, both for itself and for those who wish to come to understand it. It is virtually impossible to comprehend such a semiotics when it poses the problem of a production that is not that of communication but which at the same time is constituted through communication, unless one accepts the radical break which separates the problematics of exchange and work. Let us indicate just one of the many consequences entailed by such a semiotics: it replaces the concept of *linear historicity* with the necessity of establishing a typology of signifying practices from the particular models of the production of meaning which actually found them. This approach therefore differs from that of traditional historicism, which it replaced by a plurality of productions that cannot be reduced to one another and even less so to the thought of exchange. Let me stress that I do not wish to establish a list of the *modes* of production: Marx suggested this by limiting himself to the point of view of the circulation of goods. I rather wish to look at the difference between the *types* of signifying production prior to the product (value): oriental philosophies have attempted to tackle this from the point of view of work prior to communication.²⁴ These kinds of production will perhaps constitute what has been called a 'monumental history' to the extent that it literally becomes the foundation or background in relation to a 'cursive', figurative (teleological) history.²⁵

III Semiotics and 'literature'

In the field thus defined of semiotics, does 'literary' practice occupy a privileged place?

Literature does not exist for semiotics. It does not exist as an utterance [*parole*] like others and even less as an aesthetic object. It is a *particular semiotic practice* which has the advantage of making more accessible than others the problematics of the production of meaning posed by a new semiotics, and consequently it is of interest only to the extent that it ('literature') is envisaged as irreducible to the level of an object for normative linguistics (which deals with the codified and denotative word [*parole*]). In this way we can adopt the term of *writing* when it concerns a text seen as a production, in order to distinguish it from the concepts of 'literature' and 'speech'. It then becomes apparent that it is thoughtless if not dishonest to write 'speech [*parole*] (or writing)', 'spoken (or written) language'.

Seen as a practice, the literary text

is not assimilable to the historically determined concept of 'literature'. (It) implies the overthrow and complete revision of the place and effects of this concept... In other words, the specific problematics of writing isolates itself completely from myth and representation in order to think (of) itself in its own literality and space. The practice must be defined on the level of the 'text' to the extent that from now on this word refers to a function that writing does not 'express', but rather which it has at its *disposal*. A dramatic economy whose 'geometric place' cannot be represented (it is in play).²⁶

Any 'literary' text may be envisaged as productivity. Literary history since the end of the nineteenth century has given us modern texts which, even structurally, perceive themselves as a production that cannot be reduced to representation (Joyce, Mallarmé, Lautréamont, Roussel). Therefore, a semiotics of production must tackle these texts precisely in order to join a scriptural practice concerned with its own production to a scientific thought in search of production. And it must do so in order to bring out all the consequences of such a confrontation, that is, the reciprocal upheavals which the two practices inflict on one another.

Developed from and in relation to these modern texts the new semiotic models then turn to the *social text*, to those social practices of which 'literature' is only one unvalorized variant, in order to conceive of them as so many ongoing transformations and/or productions.

NOTES

- 1 See 'Troudny po znadowym sisteman' (Work on signifying systems), vols I, II, III (Estonia: University of Tartu, 1965).
- 2 'Semiology, sooner or later, is bound to come up against ("true") language, not just as a model, but also as a component, relay or signified.' R. Barthes, 'Eléments de semiologie', *Communications* 4.
- 3 Loc. cit.
- 4 On this point, see the critique of J. Derrida, *De la grammatologie* (Paris: Minuit, 1967), p. 75 (*Of Grammatology*, tr. G. Spivak, Baltimore, Md: Johns Hopkins University Press, 1974, p. 57).
- 5 See A. Rosenbluth and W. Wiener, 'The role of models in science', *Philosophy of Sciences*, 12, no. 4 (1945), p. 314. Let us note, in passing, the etymology of the word 'model' in order to clarify the concept: lat. *modus* = measure, melody, mode, cadence, suitable limit, moderation, way, manner.
- 6 The notion of analogy, which seems to shock the purists, must be taken here in the serious sense which Mallarmé defined 'poetically' as follows: 'Herein lies the whole mystery: to pair things off and establish secret identities that gnaw at objects and wear them away in the name of a central purity.'
- 7 'We can say that the semiological is a sort of signifier which, under the control of some anagogical level, articulates the symbolic signified and constitutes it within a network of different significations.' A. J. Greimas, *Sémantique structurale* (Paris: Larousse, 1966), p. 60 (*Structural Semantics: an attempt at method*, Lincoln: Neb.: University of Nebraska Press, 1984).
- 8 The classical distinction between the natural and human sciences also considers the former to be more 'pure' than the latter.
- 9 'The model is always a representation. The problem is to know what is represented and how the function of representation appears.' G. Frey, 'Symbolische und ikonische Modelle', *Synthèse*, 12, no. 2-3 (1960), p. 213.
- 10 G. W. F. Hegel, *Science of Logic*, tr. A. V. Miller (London: Allen & Unwin, 1969), p. 842.
- 11 'It is here that the *content* of cognition as such first enters into the circle of consideration, since, as deduced, it now belongs to the method. The method itself by means of this moment expands itself into a *system*.' *Ibid.*, p. 838.
- 12 'The Marxist science of ideologies raises two fundamental problems: 1) the problem of the characteristics and forms of the ideological material which is organized like a signifying material; 2) the problem of the characteristics and forms of the social communication that produces this signification.' P. N. Medvedev, *Formalnyi metod v literaturovedenci, Kriticheskoe wedenie v sotsiologicheskuiu poetiku* (Leningrad, 1928) (*The Formal Method in Literary Scholarship*, tr. A. J. Wehrle,

- Baltimore, Md: Johns Hopkins University Press, 1978). We shall return to the importance of this distinction.
- 13 L. Althusser, *Lire le Capital*, vol. II (Paris: Maspéro, 1966), p. 125 (*Reading Capital*, tr. B. Brewster, London: New Left Books, 1979, p. 157).
 - 14 *Lire le Capital*, vol. II, pp. 114–15 (*Reading Capital*, pp. 149–50).
 - 15 F. Engels, preface to the English edition of *Capital*, 1886, vol. I, pp. 4–6 (quoted by L. Althusser, *Lire le Capital*, vol. II, p. 112 (*Reading Capital*, p. 147)).
 - 16 K. Marx, *A Contribution to the Critique of Political Economy* (London: Lawrence & Wishart, 1971), p. 38.
 - 17 *Capital*.
 - 18 Ibid.
 - 19 Ibid.
 - 20 J. Derrida, *De la grammatologie* (Paris: Minuit, 1967), p. 424 (*Of Grammatology*, tr. G. Spivak, Baltimore, Md: Johns Hopkins University Press, 1974, p. 300).
 - 21 S. Freud, *The Interpretation of Dreams, Standard Edition*, vol. V (London: Hogarth Press, 1953), p. 507.
 - 22 Laplace, *Essai philosophique sur les probabilités* (Paris: Gauthier-Villard, 1921), p. 3.
 - 23 H. Reichenbach, *Philosophic Foundations of Quantum Mechanics* (Berkeley, Calif., and Los Angeles: University of California Press, 1944).
 - 24 For a trial typology of signifying practices, see 'For a semiology of paragrams', in *Séméiotiké: recherches pour une sémanalyse* (Paris: Seuil, 1969), pp. 174–207, as well as 'Distance and antipresentation', *Tel Quel*, 32, pp. 49–53.
 - 25 Ph. Sollers, 'Programme', *Tel Quel*, 31, reprinted in *Logiques* (Paris: Seuil, 1968).
 - 26 Ibid.

Translated by Seán Hand