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Theory and Society, Vol. 7, No. 3. (May, 1979), pp. 273-288.

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CLUES

Roots of a Scientific Paradigm

CARLO GINZBURG

The distinction between sciences of nature and human sciences has been long debated and will probably be discussed for some time. Although some, like Lévi-Strauss, believe that the distinction does not exist *on principle*, there can be no doubt of its existence *in fact*. The following brief remarks approach this issue from a standpoint that is perhaps rather unusual. In particular, I intend to show how, towards the end of the nineteenth century, there quietly emerged in the sphere of human sciences an epistemological model (or "paradigm"¹) which has not yet been given enough attention.

Between 1874 and 1876, a series of articles on Italian painting appeared in the *Zeitschrift für bildende Kunst*. Their author was an unknown Russian scholar, Ivan Lermolieff; their translation into German had been done by another unknown, Johannes Schwarze. These articles proposed a new method for the attribution of ancient paintings that kindled divergent reactions and lively discussions. Several years passed before the author cast off the double mask behind which he had hidden himself. The author was an Italian, Giovanni Morelli (Schwarze was a German equivalent of this last name, and Lermolieff a quasi-anagram of it). Art historians even nowadays still talk about a "Morellian method."²

Let us see of what this method consisted. Museums, Morelli said, are full of paintings whose authorship has been attributed inaccurately. But to restore each painting to its real author is a difficult task: often these works are not signed, have been re-painted or are in bad condition. In such a situation it is indispensable to be able to distinguish between originals and copies. But to do this, Morelli said, one should not work (as is usually done) on the basis of the most striking features of paintings, which for this very reason are the easiest to imitate. the lifted-to-heaven eyes of Perugino's figures, the smile of

Leonardo's, and so on. One should rather examine the most negligible details, those least influenced by the characteristics of the school the painter belongs to: the lobes of the ears, the fingernails, the shape of the fingers and toes. In this manner Morelli discovered, and painstakingly cataloged, the shape of ears typical of Botticelli, that of Cosmé Tura, and so on: these traits were present in originals, but not in copies. With this method he proposed scores of new attributions in some of the most important museums of Europe. In many cases his attributions were sensational: for instance, a stretched-out Venus in the Dresden Gallery, always considered a copy by Sassoferrato of a lost painting of Tiziano, was identified by Morelli as one of the very few works certainly attributable to Giorgione.

Despite these results, Morelli's method was very much criticized, partly maybe because of the almost arrogant assurance with which it was presented. Afterwards it was considered mechanical, grossly positivistic, and fell into discredit.³ (It may well be however, that many scholars who resisted it went on using it silently for their attributions.) The renewal of interest in Morelli's writings was an achievement of E. Wind, who considered them typical of the modern attitude to works of art — an attitude tending to an appreciation of details rather than of the work as a whole. In Morelli, Wind believed, there was an exasperation with the worship for the directness of genius, that he had seen during his youth in his contacts with the Romantic groups in Berlin.⁴ This interpretation is not very convincing, since Morelli did not propose to solve problems of an aesthetic nature (and he was criticized for this later), but preliminary problems of a philological nature.⁵ Actually the implications of the method proposed by Morelli were different, and much more complex. We shall see that Wind came very near to divining them.

The problems that Morelli tried to solve were of a philological nature in that they were similar, in a certain sense, to those of a philologist editing a text, or of a textual critic.⁶ Like the latter, Morelli was dealing with texts (that is, paintings) that were anonymous, damaged, palimpsestic and copied only more or less faithfully; he aimed at reconstructing the text (the painting) as it was originally. But to mention copies is probably a sufficient indication of the existence, side by side with the similarity, of a decisive difference. For our culture, only a literary text is perfectly reproducible (after the invention of printing, even with mechanical means), whereas a work of figurative art is reproducible only imperfectly (despite the invention of engraving techniques and later of photography).⁷ The editions of *Orlando Furioso* may exactly reproduce the text as it was written by Ariosto; the copies of a portrait by Raffaello will never be able to do this. A painting is, by definition, something unique that can never be repeated — a fact well-known for its

considerable commercial implications. Hence the problem raised by Morelli – how to identify the original among a multitude of copies.

The distinction between literary texts and pictorial “texts” cannot be explained by the alleged eternal characteristics of literature and painting. On the contrary, the distinction is eminently historical, based on the assumption of two decisive historical turning points: the invention of writing and the invention of printing. It is well known that textual criticism was born after the former (when Homer’s poems were transcribed) and was consolidated after the latter (when humanists began to prepare the first editions of the Classics).⁸ At first, all elements connected with voice and gesture were considered irrelevant to the text; later all elements connected to the physical aspects of writing were deemed irrelevant. The result of this double process was a progressive dematerialization of the text; it gradually came to be purified of all sensory references. All this strikes us as obvious now, but it is not at all obvious. It is sufficient to remember the decisive role of voice intonation in oral literature to see that this concept of text is connected to a cultural choice of incalculable significance. That this choice was not occasioned by mechanical reproduction replacing writing by hand is proved by the striking case of China, where the invention of printing did not cut the ties between literary text and handwriting. On the contrary, in fourteenth century Italy, people who were able to discriminate between “good” and “bad” codices of the *Commedia* were already well aware that texts were not identical with their material prop of paper or vellum, no matter how elegantly illuminated they might be.⁹

This thoroughly abstract concept of a text explains why philology, especially textual criticism, was the first of all humanistic disciplines to acquire a scientific character. Making a radical decision, it attended to only the reproducible features of a text (reproducible at first by hand, later, after Gutenberg, mechanically). This way it avoided the main stumbling-block of the human sciences: quality.¹⁰ It is significant that Galileo, when founding (with an equally drastic reduction) the modern science of nature, referred to philology. The traditional medieval comparison between book and world was founded on the self-evidence, the immediate legibility of both: Galileo on the contrary emphasized that “philosophy . . . written down on this great book that is continually open to our eyes (I mean the universe) . . . cannot be understood *unless one learns first how to understand its language and recognize the letters in which it is written,*” that is, “triangles, circles, and other geometric figures.”¹¹ For the natural philosopher, as for the philologist, the text is something deep and invisible that has to be reconstructed beyond all sensory data: “figures, numbers and movements, but not odors or tastes or sounds, *which I believe to be, out of the living animal, nothing but words.*”¹²

With this sentence Galileo gave a radically new direction to the science of nature, in a tendentially anti-anthropocentric and anti-anthropomorphic sense it never lost. This was the point where the gulf between the sciences of nature and human sciences began to open.¹³

Attempts to bridge this gulf are well known. One of them is Morelli's seemingly negligible attempt. He declared that his aim was to give — at last — a scientific basis to the studies of art history, polluted as they were by amateurishness and inaccuracy, through a systematic use of the “experimental method, which beginning from Leonardo and Galileo up to Volta and Darwin, has made possible the most glorious discoveries.”¹⁴ What meaning are we to give this assertion?

We have seen that Morelli's main object, the discovery of a reliable method for identifying unique artistic personalities, distinguishing originals from copies, excluded the conventional methods of textual criticism. All the more reason, apparently, for excluding the methods of the sciences of nature. What Morelli meant to locate was unique artistic personality, precisely for its uniqueness. But is it possible to take absolute singularity as the object of scientific analysis? Modern science has implicitly adopted the scholastic motto *individuum est ineffabile*; i.e., one cannot talk about what is individual. The quantitative and anti-anthropocentric approach of the sciences of nature from Galileo on has placed human sciences in an unpleasant dilemma; they must either adopt a weak scientific standard so as to be able to attain significant results, or adopt a strong scientific standard to attain results of no great importance. Only linguistics has been able to escape this dilemma. But Morelli, several decades earlier, had already proposed a different solution, that was later to turn out to be extraordinarily successful.

“Morelli's books,” writes Wind, “look different from those of any other writer on art. They are sprinkled with illustrations of fingers and ears, careful records of the characteristic trifles by which an artist gives himself away, as a criminal might be spotted by a fingerprint . . . any art gallery studied by Morelli begins to resemble a rogues' gallery . . .”¹⁵ This comparison was brilliantly developed by Castelnovo, who compared Morelli's method, based on the study of clues, to a method that, almost in those same years, was attributed to Sherlock Holmes by his creator, Arthur Conan Doyle.¹⁶ The art connoisseur is comparable to a detective who establishes the author of a “crime” (of a painting) on the basis of clues that are not perceptible to most people. The instances of Holmes' shrewdness in interpreting footprints in the mud, cigarette ashes, and so on, are countless and well known. But to convince ourselves of the accuracy of the comparison proposed by Castel-

nuovo, it will be sufficient to take a look at a relatively late story, *The Cardboard Box* (1917), where Sherlock Holmes literally “morellizes.” The case begins with two severed ears sent by mail to an innocent old lady. Here we see an expert at work: Holmes “was staring with singular intentness at the lady’s profile. Surprise and satisfaction were both for an instant to be read upon his eager face, though when she glanced round to find out the cause of his silence he had become as demure as ever. I [Watson] stared hard myself at her flat, grizzled hair, her trim cap, her little gilt ear-rings, her placid features, but I could see nothing which could account for my companion’s evident excitement.”¹⁷ Later on Holmes explains to Watson (and to the reader) the route his quick-as-lightning mental workings have taken: “As a medical man, you are aware, Watson, that there is no part of the body which varies so much as the human ear. Each ear is as a rule quite distinctive, and differs from all other ones. In last year’s *Anthropological Journal* you will find two short monographs from my pen upon the subject. I had, therefore, examined the ears in the box with the eyes of an expert, and had carefully noted their anatomical peculiarities. Imagine my surprise then, when, on looking at Miss Cushing, I perceived that her ear corresponded exactly with the female ear which I had just inspected. The matter was entirely beyond coincidence. There was the same shortening of the pinna, the same broad curve of the upper lobe, the same convolution of the inner cartilage. In all essentials the same ear. Of course, I at once saw the enormous importance of the observation. It was evident that the victim was a blood relation, and probably a close one . . .”¹⁸

We shall soon see what the implications of this parallelism were.¹⁹ But first it will be useful to consider another valuable insight of Wind’s: “To some of Morelli’s critics it has seemed odd that ‘personality should be found where personal effort is weaker.’ But on this point modern psychology would certainly support Morelli: our inadvertent little gestures reveal our character far more authentically than any formal posture that we may carefully prepare.”²⁰

“Our inadvertent little gestures . . .”: we are immediately tempted to replace the generic phrase “modern psychology” with a specific name — that of Freud. Texts give a surprising corroboration to this. Wind’s writing about Morelli has attracted the attention of scholars²¹ to a long-neglected passage of Freud’s famous essay *The Moses of Michelangelo* (1914). At the beginning of the second paragraph, Freud writes: “Long before I had any opportunity of hearing about psychoanalysis, I learnt that a Russian art-connoisseur, Ivan Lermolieff, had caused a revolution in the art galleries of Europe by questioning the authorship of many pictures, showing how to distinguish

copies from originals with certainty, and constructing hypothetical artists for those works of art whose former supposed authorship had been discredited. He achieved this by insisting that attention should be diverted from the general impression and main features of a picture, and he laid stress on the significance of minor details, of things like the drawing of the fingernails, of the lobe of an ear, of aureoles and unconsidered trifles which the copyist neglects to imitate and yet which every artist executes in his own characteristic way. I was then greatly interested to learn that the Russian pseudonym concealed the identity of an Italian physician called Morelli, who died in 1891. It seems to me that his method of inquiry is closely related to the technique of psychoanalysis. It, too, is accustomed to divine secrets and concealed things from unconsidered or unnoticed details, from the rubbish-heap, as it were, of our observations (*auch diese ist gewöhnt, aus gering geschätzten oder nicht beachteten Zügen, aus dem Abhub – dem ‘refuse’ – der Beobachtung, Geheimes und Verborgene zu erraten*).²²

The essay on the Moses of Michelangelo was published anonymously at first: Freud acknowledged it as his only when he included it in his complete works. Some have surmised that Morelli’s tendency to erase his own personality as a writer by concealing it under pseudonyms had been caught by Freud: and conjectures, varying in acceptability, have been advanced upon the meaning of this convergence.²³ There is no doubt, in any case, that, under the cloak of anonymity, Freud had stated, in a form that was both explicit and reticent, that Morelli had had a considerable intellectual influence on him long before his discovery of psychoanalysis (*“lange bevor ich etwas von der Psycho-analyse hören konnte . . .”*). To reduce this influence to the essay upon the Moses of Michelangelo alone, or more generally to the essays upon subjects connected to art history, as some authors have done,²⁴ improperly limits the significance of Freud’s words: “It seems to me that his method of inquiry is closely related to the technique of psychoanalysis”. In fact, the whole of Freud’s statement places Morelli in a special position in the history of psychoanalysis. It is a connection corroborated by definite evidence, and not conjectural like most of Freud’s “antecedents” or “forerunners”; moreover, the contact with Morelli’s writings took place, as we have said in Freud’s “pre-analytic” period. We are therefore in the presence of an element that has contributed directly to the crystallization of psychoanalysis, and not (as in the case of the passage on dreams of J. Popper “Lynkeus” mentioned in reprints of *Traumdeutung*²⁵) of a coincidence that has been found out later, after the discovery had taken place.

Before we try to understand what Freud was able to acquire from reading

Morelli, it will be useful to state precisely the moment in which this reading took place. The moment, or rather the moments, because Freud mentions two distinct stages: “*Long before* I had any opportunity of hearing about psychoanalysis, I learnt that a Russian art-connoisseur, Ivan Lermolieff . . .”; “I was *then* greatly interested to learn that the Russian pseudonym concealed the identity of an Italian physician called Morelli . . .”

About the date of the first statement we can only advance a conjecture. As a *terminus ante quem* we can propose the year 1895 (when Freud’s and Breuer’s *Studies upon Hysteria* were published) or 1896 (when Freud for the first time used the term “psychoanalysis”).²⁶ As a *terminus post quem* we can propose 1883. That year, in December, Freud wrote his fiancée a long letter about his “discovery of painting” during a visit to the Dresden Gallery. Before that he had had no interest in painting; now, he wrote, “I sloughed off my barbarism and began to admire.”²⁷ It seems unlikely that before this date Freud could be attracted by the writing of an unknown art historian; it is perfectly plausible, on the other hand, that he should start reading them shortly after his letter to his fiancée about the Dresden Gallery, since the first of Morelli’s essays to be collected in a volume (Leipzig, 1880) were precisely about the works of Italian masters in the galleries in Munich, Dresden and Berlin.²⁸

It is possible to establish perhaps with an even better approximation the date of Freud’s second contact with Morelli’s writings. Ivan Lermolieff’s real name was revealed for the first time in the frontispiece of the English translation of these same essays, which appeared in 1883; in reprints and translations appearing after 1891 (the year of Morelli’s death) both his name and his pseudonym are mentioned.²⁹ It is not impossible that one of these volumes should have been seen eventually by Freud: but probably he found out about Ivan Lermolieff’s identity by pure chance, in September 1898, while browsing in a bookshop in Milan. Among Freud’s books that have been preserved in London there is a copy of Giovanni Morelli (Ivan Lermolieff), *Lella pittura italiana: Studii storico critici. — Le gallerie Borghese e Doria Pamphili in Roma*, Milano, 1897. Upon his copy Freud wrote the date of the purchase: Milan, September 14.³⁰ The only time Freud visited Milan was in the autumn of 1898.³¹ At that moment, moreover, Morelli’s book had a further interest for Freud. For some months he had been concerned with memory lapses; a short time before, in Dalmatia, the episode — later analyzed in *Psychopathology of Everyday Life* — had taken place in which he had vainly tried to remember the name of the artist of the Orvieto frescoes. Now, both the real artist (Signorelli) and the incorrect ones that Freud had first recalled (Botticelli, Boltraffio) were mentioned in Morelli’s book.³²

But what significance did Morelli's essays have for Freud? Freud himself indicates it: the proposal of an interpretative method based on debris, on marginal data, considered as detectors. This way, details usually considered unimportant or even trivial, "low," could provide the key for understanding the highest product of human spirit: "my opponents," Morelli wrote ironically - just the sort of irony Freud was bound to like - "are pleased to define me as one who is unable to see the spiritual meaning of a work of art and therefore attaches particular importance to outward signs such as the shape of hands, ears, or even, *horribile dictu*, of such a disagreeable object as the fingernails."³³ Morelli too could have appropriated the Virgilian motto Freud was fond of and had chosen as an epigraph to his *Interpretation of Dreams*: "*Flectere si nequeo Superos, Acheronta movebo.*" ("If Heaven I cannot bend, then Hell I will arouse!")³⁴ Besides, these marginal data were revealing, in Morelli's opinion, because they represented a moment in which the artist's subordination to cultural tradition was loosened and replaced by a purely individual trait, which was repeated "as a consequence of habit and *almost unconsciously*."³⁵ Even more than the reference to the unconscious - not exceptional in that period³⁶ - what is striking here is the identification of the intimate core of artistic personality with elements that are beyond the control of consciousness.

An analogy between Morelli's, Holmes' and Freud's methods has thus been coming into focus. We have already mentioned the connection between Morelli and Holmes and the one between Morelli and Freud. Steven Marcus has discussed the remarkable convergence between Holmes' and Freud's proceedings.³⁷ In all three cases, traces that may be infinitesimal make it possible to understand a deeper reality than would otherwise be attainable. Traces - or more precisely, symptoms in Freud's case, or clues in Sherlock Holmes' case. As for Morelli, we might say that the originality of his method consisted in his considering traces, pictorial traces, as symptoms or clues.³⁸

How can this triple analogy be explained? At first sight, the explanation seems simple. Freud was a doctor; Morelli had a degree in medicine; Conan Doyle had been a doctor before he began to write. In all three cases we have a glimpse of *the model of medical semiotics* that makes it possible to diagnose diseases not recognizable through a direct observation and is based on superficial symptoms sometimes irrelevant to the layman - to Doctor Watson, for instance. (Incidentally, it is worth pointing out that the Holmes-Watson pair, with the shrewd detective and the slow-witted doctor, is a splitting of a real figure, one of Conan Doyle's professors in his student days, a man renowned for his extraordinary diagnostic ability.³⁹ But this is not a case of mere biographic coincidences. Towards the end of the nineteenth century, more

precisely in the decade 1870–1880, a paradigm based on semiotics began to emerge in human sciences. Why semiotics?

It developed for internal and external reasons. For the sake of clarity, we shall separate them and begin with the former.

At present only etymology reveals the extremely ancient relationship between medical semiotics and other sciences based on the deciphering of signs. The epistemological model that unites them, beyond all differences, probably traces back to divination.⁴⁰ This does not imply – as some have asserted⁴¹ – that these particular practices were historically preceded by a general science of signs; far from it. The oracle, the priest, the interpreter of divine language, the medical man (social figures that were for a long time merged into a single individual) obviously are much more ancient than the semiologist or his direct ancestor.

In this group of sciences one undeniably differs from all the others: philology, the science that deciphers and interprets languages and writings other than those of the gods. Its first development, made possible by the social system of the Greek *polis*, was a decisive event for the secularization and democratization (potential, at least) of culture.⁴² But philology too is a science of signs: and as such it can be included in this group of disciplines, that might be defined as based on signs. What unites them is, 1. their being based on the deciphering of signs; 2. their having as objects individual cases, situations, and documents, *inasmuch as they are individual*; 3. their attaining a knowledge that implies an inevitable margin of hazardousness, of conjecture.⁴³ As regards this last point, which is decisive, one should consider the role of conjecture both in the various forms of mantics and in philology.⁴⁴

These characteristics explain the epistemologic ups and downs of medicine; since Hippocrates time, semiotics has been considered an integral part of medicine. In the seventeenth century, when an extraordinary development of the sciences of nature resulted in a rearrangement of the map of knowledge, medicine (including semiotics) was suddenly placed in an ambiguous position. Its reputation was torn to tatters in comparison with human sciences. Its methods seemed “uncertain,” its results, dubious. Writings on the “uncertainty” of medicine, from Lionardo di Capua (end of the seventeenth century) to Cabanis (end of the eighteenth century), admitted this lack of strictness, though afterwards the latter tried to recognize that medicine had a scientific character of its own.⁴⁵

The reasons for the “uncertainty” of medicine seemed to be basically two.

First, as Cabanis said, it was not enough to catalog single diseases so as to build up an orderly framework: in each individual, diseases take on different characteristics. Second, knowledge of diseases was always indirect and based on clues: living bodies were, by definition, inaccessible. Of course it was possible to dissect corpses; but how could one infer from a corpse, already injured by the processes of death, the characteristics of living individuals?⁴⁶ This double difficulty made it inevitable that it was not possible to prove the effectiveness of medical practice.

In conclusion, the impossibility of medicine achieving the reliability of the sciences of nature stemmed from the impossibility of quantification; the impossibility of a quantification stemmed from the inevitable presence of qualitative and individual elements; and the presence of individual elements, from the identity of the subject that knows and the object that is known. Discussions about the “uncertainty” of medicine quickly formulated the epistemological crux of the “human sciences.” In fact, as these discussions began to develop in the early nineteenth century they took medicine as their model. While other recently formulated disciplines based on signs (as phrenology) were about to be definitely labelled as fictitious sciences, and degraded to the rank of forms of divination, medicine acquired an unprecedented epistemological and social ascendancy.

But which part of medicine? Towards the middle of the nineteenth century, an alternative begins to appear: the anatomic paradigm on the one hand, the semiotic one on the other. The metaphor of the *anatomy of society*, used for instance by Marx and Engels, expresses an aspiration to a systematic knowledge in an age that had witnessed the collapse of the last great philosophic system, that of Hegel. But despite the great success of Marxism, human sciences have adopted (with few exceptions, one of them linguistics) the paradigm of semiotics, based on signs. The fluttering robes depicted by fifteenth-century Florentine painters, the neologisms of Rabelais, the healing of scrofula patients by French and English kings (to quote only a few of many possible instances) have been taken, each time in a different sense, as small but significant clues of more general phenomena: the outlook of a social class, or of a writer, or of an entire society.⁴⁷ A discipline such as psychoanalysis developed, as we have seen, from the assumption that seemingly negligible details could reveal deep and far-reaching phenomena. Side by side with the decadence of systematic thought, there was a rise in the fortunes of aphoristic thought – from Nietzsche to Adorno. The very word *aphoristic* is revealing. (It is a clue, a symptom, a telltale light: there is no escaping the paradigm). *Aphorisms*, as a matter of fact, was the title of a famous work by Hippocrates. In the seventeenth century collections of *Political Aphorisms*

began to be published.⁴⁸ Aphoristic literature is by definition an attempt to formulate opinions about man and society on the basis of clues, of symptoms: a humanity and a society that are diseased, that are undergoing a *crisis*. "Crisis" too is a medical, hippocratic term.⁴⁹

The success of an epistemology based on clues can also be explained by external reasons. Until the middle of the nineteenth century, the figures of criminal and proletarian tended to merge: that is, as the criminal codes became tighter and covered a larger area, the distinction between lower classes and criminals blurred.⁵⁰ Later, individuality and identity grew in importance as issues to specific social groups, among them those interested in social control. The increasing uncontrollability of social tensions produced a new phenomenon: the growing "criminalization" of the "class opponent." Factories had been built taking jails as a model, and discipline in workhouses followed that of convict prisons. New social controllers appeared: the doctor and the policeman. It was in this context that the new paradigm emerged, especially after the economic *crisis* of 1873.

In a sense it can be said that a distinct criminal fringe began to form only in the latter part of the century. An analysis of statistical data about criminality in France since 1870 onwards shows a dramatic increase in the number of recidivists: at the end of the century they were 50% of prosecuted criminals.⁵¹ This phenomenon testified to the complete failure of the redeeming qualities ascribed by philanthropists to the new penitentiary system. Juvenile offenders, marginals, occasional thieves transformed themselves in jail into criminals in the full sense of the word. But the growing percentage of recidivists, as well as the rising influence of international workers' associations, posed fresh problems to policemen and governments. To identify somebody as a recidivist, it was necessary to prove that (a) he/she had been condemned before, and (b) he/she was the same person who had been condemned before. The first problem was solved by creating police registers; the second, by devising new identification methods, superseding the old marks, which had been abolished in all advanced countries. It is highly significant, in this context, that the anthropometric method elaborated by Alphonse Bertillon was defeated, at the end of the century, by the finger-print method based on Francis Galton's discoveries. To catch the elusive uniqueness of individuals, the clue provided by a small detail like papillary ridges proved more useful than the complex description of macroscopic bodily features such as height and arms-breadth.

This example shows the deep connection between the problem of individuality and the problem of social control. In fact, it can be said that the individual,

born in a religious context (*persona*), acquired its modern, secularized meaning only in relation with the State. Concern with an individual's uniqueness – as taxpayer, soldier, criminal, political subversive and so on – is a typical feature of developed bureaucracies. Most aptly, in the nineteenth century, traditional figures of those who control everyday life in society, such as priests, were increasingly superseded by new ones: physicians, policemen, psychiatrists, later on psychoanalysts and social scientists. It is in this context that we can understand the pervasive influence of the model based on clues – the semiotic paradigm.

NOTES

1. I am using this term in the meaning proposed by T. S. Kuhn, *La struttura delle rivoluzioni scientifiche*, It. trans., Torino 1969, not considering the distinctions and specifications introduced later by the same author (see "Postscript – 1969", in *The Structure of Scientific Revolution*, Second Edition, Enlarged, Chicago 1974, pp. 174 sgg.).
2. On Morelli, see first of all E. Wind, *Art and Anarchy*, London 1963, pp. 32–51, and the bibliography quoted herewith. On Morelli's biography, add M. Ginoulhiac, "Giovanni Morelli. La vita", in *Bergomum*, XXXIV (1940), n. 2, pp. 51–74; the Morellian method was recently re-examined by Wollheim, "Giovanni Morelli and the Origins of the Scientific Connoisseurship", in *On Art and the Mind: Essays and Lectures*, London 1973, pp. 177–201. Other contributions will be quoted later, in footnote 21. Unfortunately, there is no general study on Morelli. It would be useful to analyze, besides his writings on art history, his early scientific education, his relationship with the German intellectual milieu, his friendship with the great Italian literary critic Francesco De Sanctis, his engagement in politics. As for De Sanctis, see Morelli's letter, proposing him for the chair of Italian Literature in Zurich (F. De Sanctis, *Lettere dall'esilio (1853–1860)*, ed. by B. Croce, Bari 1938, pp. 34–38). See also the indices of De Sanctis' *Epistolario* being published by Einaudi Publishers in Turin. On Morelli's political engagement, one might see the passing references in G. Spini, *Risorgimento e protestanti*, Napoli 1956, pp. 114, 261, 335. For the European echo of Morelli's writings, see his letter to Marco Minghetti from Basel, dated June 22, 1882: "Old Jacob Burckhardt, whom I visited last night, was extremely kind to me, and insisted on spending the whole evening with me. He is a very original man, both in his behaviour and in his thinking; you, and especially Donna Laura, would like him. He talked about Lermolieff's book, as if he knew it by heart, and used it to ask me a lot of questions – which flattered me a great deal. This morning I am going to meet him again . . ." (Biblioteca Comunale di Bologna, Archiginnasio, Carteggio Minghetti, XXIII, 54).
3. Longhi judged Morelli, compared to the "great" Cavalcaselle, "a lesser, but considerable man": immediately afterwards, however, he spoke about "materialistic indications" which rendered "his method shallow and useless from the aesthetician's point of view" ("Cartella tizianesca," in R. Longhi, *Saggi e ricerche: 1925–1928*, Firenze 1967, p. 234). A damaging comparison with Cavalcaselle is taken up, for instance, by M. Fagiolo in G. C. Argan – M. Fagiolo, *Guida alla storia dell'arte*, Firenze 1974, pp. 97, 101.
4. See Wind, *Art. 000, op. cit.*, pp. 42–44. Croce, on the other hand, spoke about "the sensualism of immediately perceived details" (*La critica e la storia delle arti figurative. Questioni di metodo*, Bari 1946, p. 15).

5. See Longhi, *Saggi* . . . , *op. cit.*, p. 321.
6. The analogy, as far as I know, never is explicit in Morelli's writings. He emphasizes, however, the parallel between "the spoken language and the painted or sculpted language" (I. Lermolieff, *Le opere dei maestri italiani nelle gallerie di Monaco, Dresda e Berlino, saggio critico* . . . tradotto dal russo in tedesco per cura del dott. Giovanni Schwarze e dal tedesco in italiano dalla baronessa K . . . A . . . , Bologna 1886, p. 6; see also G. Morelli (I. Lermolieff), *Della pittura italiana. Studii storico critici. — Le Gallerie Borghese e Doria Pamphili in Roma*, Milano 1897, p. 73.
7. See W. Benjamin, *L'opera d'arte nell'epoca della sua riproducibilità tecnica*, It. trans., Torino 1974.
8. On the impact of the invention of writing, see J. Goody and J. Watt, "The Consequences of Literacy", in *Comparative Studies in Society and History*, V (1962–63), pp. 304–45. See also E. A. Havelock, *Cultura orale e civiltà della scrittura, Da Omero a Platone*, It. trans., Bari 1973.
9. See the introduction to the critical edition of the *Commedia* edited by G. Petrocchi (Dante Alighieri, *La Divina Commedia*, Torino 1975).
10. I will further discuss this point in the forthcoming broader version of this essay. See, for the moment, the stimulating remarks by S. Timpanaro, *Il lapsus freudiano. Psicanalisi e critica testuale*, Firenze, 1974).
11. G. Galilei, *Il Saggiatore*, ed. by L. Sosio, Milano 1965, p. 38. See E. Garin, "La nuova scienza e il simbolo del 'libro,'" in *La cultura filosofica del Rinascimento italiano. Ricerche e documenti*, Firenze 1961, pp. 451–65, who discusses the interpretation of this (and other) passages by Galileo, advanced by E. R. Curtius. Garin's point of view is quite similar to my own.
12. Galilei, *Il Saggiatore*, *cit.*, p. 264. See also, on this subject, J. A. Martinez, "Galileo on Primary and Secondary Qualities", in *Journal of the History of Behavioral Sciences*, 10 (1974), pp. 160–69.
13. On the seventeenth century roots of this contrast, see my article "High and Low: The Theme of Forbidden Knowledge in the Sixteenth and Seventeenth Centuries", in *Past and Present*, 73 (Nov. 1976), pp. 35–37.
14. I. Lermolieff, *Le opere dei maestri italiani* . . . , *op. cit.*, p. 4.
15. See Wind, *Art* . . . , *op. cit.*, p. 40–41.
16. See E. Castelnovo, "Attribution", in *Encyclopaedia Universalis*, II, 1968, p. 782. More generally, see A. Hauser, *Le teorie dell'arte. Tendenze e metodi della critica moderna*, It. trans., Torino 1969, p. 97, who compares Freud's detective-like method to Morelli's (see further, footnote 21).
17. See A. Conan Doyle, "The Cardboard Box", in *The Complete Sherlock Holmes Short Stories*, London 1976, pp. 923–47 (for the quoted passage, see p. 932).
18. See A. Conan Doyle, *The Complete Sherlock Holmes* . . . *op. cit.*, pp. 937–38. "The Cardboard Box" was printed for the first time in *The Strand Magazine*, V (January-June 1893), pp. 61–73. It has been remarked (see A. Conan Doyle, *The Annotated Sherlock Holmes*, ed. by W. S. Baring-Gould, London 1968, II, p. 208) that in the same quarterly, a few months later, there appeared an anonymous article on the different shapes of the human ear ("Ears: a chapter on", in *The Strand Magazine*, VI, July-December 1893), pp. 388–91, 525–27). The editor of *The Annotated Sherlock Holmes* (*op. cit.*, p. 208) surmises that the article's author could have been Conan Doyle himself. In other words, Conan Doyle would have finally written Holmes' contribution to the *Anthropological Journal* (misquotation of *Journal of Anthropology*). But this is very likely to be a gratuitous assumption: the article on ears had been preceded, in the same *Strand Magazine*, by an article entitled "Hands", signed by Beckles Willson. Anyway, the page reproducing the different shapes of ears in the magazine irresistibly recalls the illustrations to Morelli's writings: this confirms the diffusion, in those years, of this specific range of interests.

19. It could however be more than a mere parallel. An uncle of Conan Doyle's, Henry Doyle, painter and art critic, in 1869 became director of the National Art Gallery in Dublin (see P. Nordon, *Sir Arthur Conan Doyle: L'homme et l'oeuvre*, Paris 1964, p. 9). In 1887 Morelli met Henry Doyle and wrote about him to his friend Sir Henry Layard: "What you tell me about the Dublin Gallery interests me very much, especially since I had the opportunity in London to personally make the acquaintance of that wonderful Mr. Doyle, who made the best of impressions on me . . . alas, how different from Doyle are the individuals whom one ordinarily meets as directors of European galleries!" British Library (the original text is in French), Add. Ms. 38965, Layard Papers vol. XXXV, c. 120 v). Henry Doyle's knowledge of the Morellian method (that we may take for granted in an art historian in those years) is proved by his *Catalogue of the Works of Art in the National Gallery of Ireland* (Dublin, 1890) where Kugler's handbook, thoroughly revised by Layard in 1887 under Morelli's supervision, is quoted. The first English translation of Morelli's writings appeared in 1883 (see the bibliography listed in *Italianische Malerei der Renaissance im Briefwechsel von Giovanni Morelli und Jean Paul Richter: 1876–1891*, herausgeg. von J. und G. Richter, Baden 1960). Holmes' first adventure (*A Study in Scarlet*) in 1887. All this shows that Conan Doyle may possibly have directly known Morelli's method. But this is, after all, an unnecessary assumption: obviously, the intellectual trend that we are analyzing was diffused even outside Morelli's writings.
20. See Wind, *Art . . .*, *op. cit.*, p. 40.
21. See, besides a precise reference of Hauser (*Le teorie dell'arte . . .*, *op. cit.*, p. 97; the original edition was printed in 1959): J. J. Spector, "Les méthodes de la critique d'art et la psychanalyse freudienne", *Diogenes*, n. 66 (1969), pp. 77–101; H. Damisch, "La partie et le tout", *Revue d'esthétique*, 2 (1970), pp. 168–188; *Ibid.*, "Le gardien de l'interprétation," *Tel Quel*, n. 44 (Hiver 1971), pp. 70–96; R. Wollheim, "Freud and the Understanding of the Art," *On Art and the Mind . . .*, *op. cit.*, pp. 209–120).
22. See S. Freud, "The Moses of Michelangelo", in trad. A. Strachey, in *Freud on Creativity and the Unconscious*, B. Nelson, ed., New York 1958, pp. 24–25. I wasn't able to see K. Victorius, "Der 'Moses des Michelangelo' von Sigmund Freud," in *Entfaltung der Psychoanalyse*, herausgeg. von A. Mitscherlich, Stuttgart 1956, pp. 1–10.
23. See S. Kofman, *L'enfance de l'art. Une interprétation de l'esthétique freudienne*, Paris 1975, pp. 19, 27; see also Damisch, "Le gardien . . ." *op. cit.*, pp. 70 sgg.; Wollheim, *On Art and the Mind . . .*, *op. cit.*, p. 210.
24. We can except the perceptive essay by Spector, who, however, denies a real relationship between Morelli's and Freud's methods ("Les méthodes . . .", *op. cit.*, pp. 82–83).
25. See S. Freud, *L'interpretazione dei sogni*, It. trans., Torino 1976, p. 289, footnote (the footnote to p. 107 lists two essays by Freud on his relationship with "Lynkeus").
26. See M. Robert, *La rivoluzione psicoanalitica. La vita e l'opera di Freud*, It. trans., Torino 1967, p. 84.
27. See E. H. Gombrich, "Freud's Aesthetics", in *Encounter*, XXVI (1966), p. 30. It's quite surprising that in this essay Gombrich doesn't mention Freud's passage on Morelli.
28. I. Lermolieff, *Die Werke italienischer Meister in den Galerien von München, Dresden und Berlin, Ein kritischer Versuch . . .* Aus dem Russischen übersetzt von Dr. Johannes Schwarze, Leipzig 1880.
29. G. Morelli (I. Lermolieff), *Italian Masters in German Galleries: A Critical Essay on the Italian Pictures in the Galleries of Munich, Dresden and Berlin . . .* translated from the German by L. M. Richter, London 1883.

30. See H. Trosman and R. D. Simmons, "The Freud Library", in *Journal of the American Psychoanalytic Association*, 21 (1973), p. 672 (I am very grateful to Pier Cesare Bori for calling my attention to this article).
31. See E. Jones, *Vita e opere di Freud*, It. trans., I, Milano 1964, p. 404.
32. See Robert, *La rivoluzione . . .*, *op. cit.*, p. 144; G. Morelli (I. Lermolieff), *Della pittura italiana . . .*, *op. cit.*, pp. 88–89 (on Signorelli), p. 159 (on Boltraffio).
33. *Ibid.*, p. 4.
34. The meaning of Freud's choice of this specific Vergilian verse from *Aeneis*, 7, 312, Loeb edition has been interpreted in various ways: see W. Schoenau, *Sigmund Freuds Prosa. Literarische Elemente seines Stil*, Stuttgart 1968, pp. 61–73. The most convincing interpretation appears to me that of E. Simon (p. 72), who believes that the motto means that the hidden, invisible side of reality is no less important than the visible one. On the possible political implications of the motto (which had been already used by Lassalle) see the fine essay by C. E. Schorske, "Politique et parricide dans l'Interprétation des rêves de Freud", in *Annales E.S.C.*, 28 (1973), pp. 309–328 (particularly p. 325 sgg.).
35. See G. Morelli (I. Lermolieff), *Della pittura italiana . . .*, *op. cit.*, p. XVIII.
36. See H. F. Ellenberger, *La scoperta dell'inconscio. Storia della psichiatria dinamica*, It. trans., Torino 1976, 2 vols.
37. See his introduction to A. Conan Doyle, *The Adventures of Sherlock Holmes: A facsimile of the stories as they were first published in the Strand Magazine . . .*, New York 1976, pp. X–XI. See also the bibliographical appendix to N. Mayer, *La soluzione sette per cento*, It. trans., Milano 1976, p. 214 (this is an undeservedly successful novel, where Holmes and Freud appear together as characters).
38. For the distinction between symptoms and clues, see T. A. Sebeok, *Contributions to the Doctrine of Signs*, Bloomington, Indiana 1976.
39. See A. Conan Doyle, *The Annotated Sherlock Holmes . . .*, *op. cit.*, I, Introduction ("Two doctors and a detective: Sir Arthur Canon Doyle, John A. Watson, M. D., and Mr. Sherlock Holmes of Baker Street"), p. 7 sgg., on John Bell, the physician who inspired the character of Holmes. See also A. Conan Doyle, *Memories and Adventures*, London 1924, pp. 25–26, 74–75.
40. I will quote here only AA. VV., *Divination and Rationalité*, Paris 1974, and particularly the excellent essay by J. Bottéro "Symptômes, signes, écritures" (pp. 70–197). I will expand this passage in a forthcoming version of this essay.
41. See L. Romeo, "Heraclitus and the Foundations of Semiotics", in *Vs*, 15/5 (1977), pp. 73–90. The relevant fact for the right interpretation of Heraclitus' fragment is, in my view, that it refers to the oracle of Delphi, that is to a divinatory context.
42. See J. Goody and J. Watt, "The Consequences . . .", *op. cit.*
43. I mean to enlarge these statements, putting them in a broader context. For the moment I will say that by foremost interlocutor (both in agreement and disagreement) is S. Timpanaro, *Il lapsus freudiano*, *op. cit.*, pp. 197–98 and *passim*.
44. See, for instance, the philological *Divinationes*, or works such as C. A. Brulley, *De l'art de conjecturer en médecine*, Paris 1801 (which I wasn't able to see). The very etymology of *conjectura* (from *cum-javio*) has divinatory overtones, and *conjector* means "divine".
45. On Lionardo di Capua see N. Badaloni, *Introduzione a G. B. Vico*, Milano 1961, *passim*. His *Parere . . . divisato in otto ragionamenti, ne' quali partitamente narrandosi l'origine e 'l progresso della medicina, chiaramente l'incertezza della medesima si fa manifesta*, was printed for the first time in Naples, in 1681. I have used the Italian translation of Cabanis' tract (*La certezza della medicina*, Bari 1974) with an introduction by S. Moravia.
46. See M. Foucault, *Nascita della clinica*, It. trans., Torino 1969.
47. Readers will have recognized the allusions to A. Warburg (*La rinascita del paganesimo antico*, It. trans., Firenze 1966), L. Spitzer (*Die Wortbildung als stilistisches*

- Mittel exemplifiziert an Rabelais*, Halle 1910), M. Bloch (*I re taumaturgai: Studi sul carattere sovranaturale attribuito alla potenza dei re particolarmente in Francia e in Inghilterra*, It. trans., Torino 1973).
48. See, besides Campanella's *Aforismi politici*, originally printed much in a Latin translation as part of his *Realis Philosophia* ("De Politica in Aphorismos digesta"), G. Canini, *Aforismi politici cavati dall'Historia d'Italia di M. Francesco Guicciardini*, Venezia 1625 (cf. T. Bozza, *Scrittori politici italiani dal 1550 al 1650*, Roma 1949, pp. 141–43, 151–52). See also the heading "aphorisme" in Littré's *Dictionnaire*.
 49. The original implication, however, referred to the sphere of law: for a short history of this word, see R. Koselleck, *Critica illuminista e crisi della società borghese*, It. trans., Bologna 1972, pp. 161–63.
 50. See the well-known book by L. Chevalier, *Classes laborieuses et classes dangereuses à Paris pendant la première moitié du XIX^e siècle*, Paris 1958. But the whole issue is too vast and complex for a full bibliography to be listed here.
 51. M. Perrot, "Délinquance et système pénitentiaire en France au XIX^e siècle," *Annales E.S.C.*, 30, 1975, p. 68.

Acknowledgment

This is a draft of an on-going research, a first version of which was discussed at Bellagio, in June 1977, during a conference on "Humanities and Social Thought," sponsored by the Rockefeller Foundation. I am very grateful to all participants for their criticisms and suggestions, and to my translator, Marta Sofri Innocenti.

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⁸ **The Consequences of Literacy**

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