

“Errori popolari:” How a Medical Notion Became an Aesthetic One

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Abstract: The notion and the linguistic coinage of “errore popolare” is not as old as it is commonly believed, but comes from the history of medicine when in the late 16th Century, the Sorbonne’s professors labelled as “erreur populaire” the paracelsian therapies. The definition became common in Italy and England. Another area where the idea of “errore popolare” was widespread is that of religion, where the notion of “error” borders with that of heresy, superstition and magic. However, the “scientific revolution” did not identify the mistakes with a social class or discipline but in the way knowledge was acquired: only the criteria of proof and evidence dispelled erroneous notions. Thus the “scientific knowledge” discredited the beliefs of the ancients, considered to be their major source, and confined them the sphere of imagination which was to be highly appreciated in the Romantic age. Such a change in perception and evaluation was favored by the new vision of the popular culture, folklore, seen as an autonomous cultural system.

Keywords: vulgus, paracelsian medicine, ciarlatani, secrets, popular errors.

The notion of “error” is quite problematic if even ancient Sophists, countering all common experience, denied its existence, and still today thinkers like Gilbert Ryle try repeatedly to find a “category of mistake.” Its difficulties grow if we combine it with the notion of *popolare*, an attribute quite ambiguous and covering a vast range of meanings and nuances.¹ Yet the topic of our study will be precisely the combination of these two terms tinged both by a varying degree of ambiguity. But readers can rest assured that we are not creating a problem just to show our daring, but we are merely studying a combination created in the culture of premodern history. The formula “errori popolari” or “erreurs populaires” far from being of our making, pops up with remarkable frequency in many titles of works regarding different disciplines, particularly in books of medicine, religion, and even in other disciplines, such as physics and history. Its frequency is confined to the period that spans approximately between the late sixteenth and the end of the eighteenth centuries. Thus, taking into account these two factors of the repeated documentation and timing, it is clear that the

¹ The notion of “popolare” has generated a real debate in modern days, especially in the light of Gramsci’s theories on the “nazional popolare” culture, which is not the one that interest us in this study. On the debate see at least Benigno 2013.

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formula “errori popolari” is based on history and it should be studied in historical terms, that is with an approach that requires concrete data rather than abstract reasoning. So our readers will be spared from disquisitions on Logic and Science and should expect a more accessible but not less interesting survey of a historical debate.

Nonetheless, both terms require some qualification, if not a precise definition, to maintain our research within clear limits and to specify its goals. “Errore” in the most empirical sense is any action that departs from the truth, yet its quality and level of gravity are not stated by a dictionary but rather by its impact or effects. A grammatic mistake is different if made by a child or by a writer, and a wrong understanding of a sacred text is different if it is made by a simple person or by the creator of heresy or a schism. We will take into consideration only errors of cultural relevance, and whose “correction” implies major scientific changes or even switches in mentality. It is important to remember that the evaluation of what must be considered a mistake is also a historical one in the sense that expresses the judgment of those who see the wrong and suggest ways of correcting it. In most cases, any belief or statement that lacks proof or evidence will be considered a mistake. This criterium already tells that the difference between right and wrong must be decided by a “method” of research.

As to their “popular” nature, the question is somewhat more complicated given the wide range of meanings of the adjective, positive at times, debasing at others, and neutral in most instances. In English, the primary sense of “popular” is that of “broadly liked,” or “admired by the people.” In Italian, as well as in French and Spanish, this meaning is only a secondary one, whereas the primary one remains that of “belonging to the folkish sphere,” something “of a simple or lower quality:” essentially the *vulgus prophanum* hated by Horace and, a millennium and a half later, by writers like the Spanish Cosme Aldana, author of a *Discorso contro il volgo*.² Neither of these well-established meanings will match precisely the one used by the authors who created the formula of “errori popolari” because the errors of their concerns were indeed widespread among common people but they were also found among learned persons and in a bookish tradition. Perhaps the best English equivalent of Italian “errori popolari” is found in the title *Pseudodoxia epidemica or Vulgar Errors* of the book by Thomas Browne. In that learned title is implied the notion of *doxa* which means “common opinion or knowledge,” which happens to be also *pseudo* or “fake” because it appears “learned” but is all wrong; moreover its notions are *epidemica* which indicates that this type of pseudo-knowledge is contagious and spreads like a pandemic. Browne’s title seems to allude not so to many single mistakes as to a set of general beliefs amply held by the folk or the *vulgus*. This latitude proves, once more, that the problem lies in the way of knowing things rather than in the knowledge of single things: so it would seem once again that there is a problem of method.

² Aldana 1578, and then in Spanish, *Invectiva contra el vulgo*, Madrid 1591, and later in *Biblioteca de Autores Españoles*, Madrid, Ribadeneira, vol. XXXVI, 1886, 495–514.

In modern times, in the post-Romantic period, the meaning of "popolare" will undergo a profound change and in the most recent decades, it defines the culture of the "subaltern" classes. We will return to this latest concept.

From what we just said it should be clear that only the "historical research" will clarify the meaning of "errori popolari," a meaning that cannot be extrapolated from the context in which it was born. Indeed if we remove the dyadic formula from its original context the meaning of each term will change: "popolo" takes the meaning of "folk," and consequently "popular mistakes" may enter in a sphere akin to that of "myths," of the unquestioned imaginary truths. The earliest signs of this change occur at the waning of the period encompassed by our study when the concerns on the problems of "methods" begin losing their dominance and urgency. At that point, *popolare* acquires the connotation of "belonging to the vulgus," and the *vulgus* begins to acquire the sacred aura of "nation." For the time being, we concentrate on the period that coined the formula "errori popolari" by which it indicates mistakes that have an impact on the culture of the moment. The idea that special "errors" could mark in negative ways entire generations or even ages is not new, as proven by expressions like that by Thomas Aquinas who speaks of the "errores gentium," faulting the entire pre-Christian civilization; and where Dante speaks of "le genti antiche nell'antico errore" (*Par.* VIII, 6), he means the whole civilization that preceded the Revelation. However, such isolated instances do not represent a cultural trend similar to the one we are going to study when some entrenched "errori popolari" became the target of the attack that a new age and a new culture were ready to carry out to dismantle a whole system of beliefs, and to impose a new method of pursuing knowledge.

Medicine was the first and most industrious discipline in identifying and repelling "errori popolari." Such primacy should not be a surprise since medicine is a discipline that touches everyone regardless of class and age. Moreover, it is a very old one, perhaps the oldest, and has, therefore, a long tradition of notions and cures and preventions; it also constitutes a body of knowledge open to individual opinions and remedies. In its long history medicine underwent several epochal changes: the Hippocratic type of medicine—innovative in its becoming separated from religion and theology—was revolutionized by Galen's anatomy and humoral theories; then it was lost to the West together with the loss of Greek; then it was recovered through the Salerno School and the Arabic influence. By the end of the fifteenth century, it was to undergo a new major change, announced, as in most cases, by denouncing the mistakes made by a previous school. Niccolò Leonicensino can open our inquiry with a short work bearing a manifesto-sounding title: *De Plini et plurium aliorum medicorum in medicina erroribus* (1492). Leonicensino was a doctor from Ferrara,³ and his pamphlet corrects many botanical data found in Pliny's *Naturalis Historia*. Leonicensino spots Pliny's mistakes by checking his Greek sources (Theophrastus, Dioscorides, Galen,

³ Ferrara was a cradle of Humanistic medicine: see Nutton 1997.

etc.), often misunderstood by the Latin author. Leoniceno's work had an impact not foreseen or not fully intended. One of the consequences was a philological debate involving Politian, Ermolao Barbaro (with his *Castigationes pliniana*), Pandolfo Collenuccio and the likes, showing that philology could take an active role in establishing the authentic "science" of the ancient authors. Even more interesting was the confirmation of the importance of herbs and plants for "pharmacology," but their value was strictly guaranteed by texts scrupulously edited and representative of the real ancient medicine. This restrictive criterion established the superiority of the Greek authors, gave a secondary role to the Latin ones (Pliny, Celsus), and rejected completely the "erroneous" Arabic authors, including Avicenna who for centuries was held as one of the highest authorities. It was an innovation but not yet a revolution since it "returned" to the tradition deemed lost for a long time. Even so, the scrutiny of the ancient doctor was constant, and their mistakes were exposed, as we can infer from the title *De erroribus veterorum medicorum* (1553) by Giovanni Argentiero.

A real revolution took place a few decades later when Paracelsus, a student in Ferrara and later a professor of medicine in Basle, where, according to a legend, on his inaugural lesson he burned the books of Galen and Avicenna, the two pillars of Western medicine. Paracelsus abandoned the guide of all the *auctores*, both ancient and Arabic, and decided that the only way to practice medicine was to observe the patients rather than read the authoritative tomes of ancient doctors. But he did much more and with greater consequences. He rejected the Galenic view that the human body was regulated by four humors (blood, black bile, yellow bile, and phlegm) and health depended on their perfect temperature and balance. Paracelsus substituted the galenic humors with three bodily elements, namely salt, sulfur, and mercury. Organic life and health were determined by the combinations and separation of these metallic elements, and all therapies would aim at assuring the stability of their vital combination. It was an alternative medicine that was based essentially on a "chemical" or "alchemic" understanding of the body. Consequently, its pharmacological counterpart had to abandon its herbal or vegetal basis in favor of a metallic one. That meant relying on completely new factors, and instead of using concoction and decoction of herbs and plants, medicines were prepared through processes of distillation, sublimation, and the grinding of minerals. Given that minerals were "sublunary" elements, that is natured by astral influences, medicine tied its contact with astrology. It was indeed an ancient notion that stars and constellation had an impact on medical and physiological matters, from the moment of conception to the hours of expiration; but Paracelsian medicine was innovative in that it specifically considered the astral influence on the metals that were chosen on this base to create *pharmaka* or "secrets" or pharmaceutical mixtures. This distinguishing feature represented a great innovation in the field of medicine. A powerful wave of occultism flooded the medical art, and notions like those of "sympathy" and "antipathy" among the elements took medicine close to magic. Understandably Paracelsian medicine became quite fashionable and at the same time, it aroused strong suspicions of magic and a vivid reaction in doctors tradi-

tionally trained. This is not the place to discuss that immense phenomenon called "Paracelsian medicine;" but what matters the most for us is that this new type of medicine favored the development of "spagyric," a process of extraction of "essences" and all sorts of chemical combination that gave life to the literature of the "secrets," which in turn nourished the phenomenon of charlatanism with its armies of practitioners of medicine who served kings as well as humble people.⁴

The clash between these two different schools of medicine created for the first time the notion of "errori popolari." The older one considered them utterly dangerous for private and public health and called for some official action to contain the practice of this "wrong" medicine; the new one alerted against the errors of the adversaries but did not call them popular. The alarm was sounded by a book, but the awareness of these mistakes and their danger had been felt for quite some time. The book in question is by André du Breil, which conveys the idea of the "political" nature and dimensions of containment of a kind of widespread mistake with strong cognitive and moral implications. The title betrays a sense of urgency: in 1578, the date of its appearance, a pest was raging in France and it was necessary to find a cure for the pest of "coqueluche," perhaps a kind of catarrh or some other respiratory disease. The high number of deaths demanded the intervention of all the science the university could provide, and emitted a *Consilium facultatis medicinae contra pestem*.⁵ The title and subtitle of Du Breil's treatise is *La police de l'art et science de médecine, contenant la refutation des erreurs, et insignes abus qui s'y commettent pour le jourdhuy: très utile et nécessaire à toute personnes, qui ont leur santé et vie en recommandation. Ou sont vivement confutez tous sectaires, sorciers, enchanteurs, magiciens, devins, pythoniens, souffleurs, empuisonneurs, et tout racaille de theriacleurs, et cabalistes: lequel en tous lieux et pays, sans aucun art ne science, approbation ou autorité, font et exercent impudemment, et malheureusement la médecine, au grand interest de la santé et vie des hommes, et detriment des Republicques*. Published in Paris (Cavallat, 1580) and dedicated to the King, this book has the modest dimensions of a polemical essay, but the intensity of outrage against the herd of fake doctors is unrestrained. Today's reader can identify just a few of them: certainly the magicians and the divines, but must look for help to identify the *theriacleurs* and the *pythoniens*, because they are "specialists," we may say, who practiced a type of medicine who had an "official" literature that legitimized their practice. The *theriaca*, for example, was an ancient concoction that had a homeopathic power, and was largely used against the pests (see Nockels Fabbri 2007); *pythociens* are

⁴ On Paracelsus see: Bianchi 1995, e Bianchi 1987; Meier 2000; Miotto 1971; Pagel 1989; Stahl 1995; Webster 1984.

⁵ The occasion for this book is a celebrated episode involving the school of medicine of the Sorbonne and a doctor from Ruen, Roch le Bailiff, who had published a book *Le demonstration ... auquel sont contenue trois cens Aphorismes Latins et François. Sommaire veritable de la Médecine Paracelsique, extrait en la plus part, par le dict Bailiff, Renne, Pierre Bret, 1578*. This book prompted André du Breil to publish his book. On the all episode see Kahn 1998. On Paracelsism in general, see Debus 1991.

the bewitchers who cure patients with charm. As we can see, the lists of doctors who never set foot in the Sorbonne are varied and numerous. Du Breil is particularly hostile to the Paracelsians:

Quant aux Paracelsistes, ou autres plus subtils inventeurs de leur secte, ils ne me feront quitter les bons, et approuvez autheurs pour suivre leurs nouvelles inventions: par lesquelles ils pervertissent tout ordre divin, et humain, de tout temps, et ancienneté, et par toutes nations, iusques icy tenu, gardé, et observé en la Medecine, ny moins d'approuver leur nouveaux secrets ou entrent toute sortes de mortiferes poisons: l'experience desquels a faict mourir une infinité de peuple, comme ils continuent chacun iour. (*Epistre à Messieurs de Roven*, with no page signatures).

[As for the Paracelsians or others more subtle inventors of their sect, they would not cause me to abandon the good and approved authors in order to follow their inventions, by which they pervert all divine and human order of all times, their antiquity and in all nations which have been upheld, defended and observed in Medicine. Nor will they cause me to approve their new "secrets" where all kind of mortal poison are mixed, and whose use has caused death to an infinite number of people, and continues to do so today.]

The book begins by sketching a history of the schools or "sects" of medicine in antiquity and considers that the best one is that of the doctor called "dogmatic and rationalist," operating along the lines signed by Hippocrates and Galen. All that has come to subvert the teachings of this illustrious tradition is ill-conceived, poisonous, and nefarious. Du Breil excoriates the pretended doctors who never took the Hippocratic oath, who flood the market with products like "quintessences," "potable gold" and all sort of potions unknown to "dogmatic and rational" doctors. Just one excerpt suffices to give us the tone and the gist of the entire treatise:

Le faux medecins de nostre temps, desquels nous entendons icy parler, se peuvent aussi diviser ou rapporter à trois sects ou manières, lesquels tous se couvrent du manteau d'Empirique, qu'ils s'attribuent faulcement, ce que facilement croient ceux qui ne sont pas versez en l'art de Medecine, et qui n'y prennent pas assez de pres garde. Et non seulement le pauvre peuple ignorant, mais aussy plusieurs des mieux apprins et advisez, par curiosité ou nouveté, s'y entremeslent. Et par licence, et faux donner à entendre au Prince, et à la Iustice, sans reprehension, ne punition aucune, leur est permis d'abuser et prendre tel accroissement qu'en fin ils seront cause de la totale ruine, non seulement de l'art et science de Medecine, mais de tuote la Republique: si en brief l'on n'y remédie, et si on n'y donne empchement. Car non seulement ils adulterent les metaux par leurs subtiles poisons et mixtion, mais aussy alterent par iceux, et font perir les corps, et bien de la terre, et qui pis est, comme harpyes diaboliques, infectent, et contaminent les autres choses de si pernicieuse consequence, qu'on ne sçavroit estimer. A raison dequoy sont plus à reprendre que vrays homicide, et assassinateurs; et doivent estre expulsez, et dechassez des pays, forbanis, et fuis comme une peste de la republique Chrestienne (Du Breil 1580, 27–8).

[The false doctors of our times, of whom we intend to speak here, can be divided or be assigned to three sects or ways which are all included under the common brand of "Empirics" which they falsely attribute to themselves and which is something easily believed by those who are not versed in the medical art, and who are not cautious at all. And not only poor and ignorant people, but also many cultivated and wise get involved with them out of curiosity. And because of a license, and their fake "make believe" presented to the Prince and to the Authorities, they are allowed to operate without any reprehension or punishment, and to grow so wide that ultimately they will be a total ruin not only for the art of Medicine, but for the entire Republique, unless a fast remedy is found and they are impeded. They not only adulterate metals by their subtle poisons and mixtures, but with them they cause the human and earthly bodies to die, and even worse, as diabolical harpies, they infect and contaminate other things with such pernicious consequences that one would not be able to estimate. Therefore they deserve to be condemned as true murderers and assassins, and should be expelled and pushed out of the countries, banished and avoided like a pest of the Christian Republique].

Medical mistakes are in fact crimes that deserve severe punishments. This notion of "erreur" runs through the book and if one learns very little about the "correct" science defended by the Sorbonne professor, he learns plenty about the notion of "mistake" in a field where life and health were at stake. To give an idea of the flood of books and booklets circulating in the year before the publication of *La police de l'art*, that is in 1579, two very successful works were published in France, one was by the Italian Gerolamo Ruscelli (Lyon), *Les secrets*, and the other was by the Suisse Conrad Gessner, *Quatre livres des secrets de medicine et de la philosophie chymique* (Paris), works that had been running through endless numbers of editions. *La police de l'art* did not extinguish the genre, because other books of "secrets" (for ex., Etienne Ydely, *Des secrets souverains et vrais remedes contre la peste*, Lyon 1581; Nicolas Bonfon, *Le blazon des fleurs ou sont contenuz plusieurs secrets de medicine*) kept appearing because they were obviously in great demand. Du Breil harps on this kind of medicine ("Agripistes [that is, the followers of Cornelius Agrippa von Nettesheim], Paracelsistes, Piedmontistes [the readers of Alessio Piemontese, *alias* Gerolamo Ruscelli], Margretistes, Ac-omistes et tels autres sectateurs") that impresses on ignorant people who see in their potions and abstruse jargon some magic power (Du Breil 1580, 43). Indeed he blames the fake doctors but also finds the patient at fault (*Les fautes des malades*) for being so gullible (Du Breil 1580, 119–29).

The attention we paid to Du Breil's treatise sheds light on the context in which the "gravity" of the medical mistakes is evident, which are not limited to a single and isolated case, but to an entire way of understanding the human body and its diseases. Some false notions have penetrated vast areas of people with the endangerment of entire populations. Any "dogmatic and rational" doctor must be aware of the level of information of his patients to apply his cures at the best level. There is no question that a new kind of medicine is competing

with an established one, therefore the battle takes epochal dimensions. *La police* shows that the errors are widespread, especially among the ignorant people who do not generate such mistakes but simply receive them as truths. To undo the teaching of these impostors it is important not only to destroy their books but to correct the ideas that they have spread, that is to go directly to “the *errori popolari*” and to rebuff them.

A few years before *La police*—a sort of treatise born out of an emergency situation—Laurent Joubert published *Erreurs populaires au fait de la médecine et regime de santé* (Bordeaux, 1578), a book destined to be successful because it was timely and did not show Du Breil’s bitter grunt. Probably Joubert foresaw that this would have been the case because he was preparing a follow-up volume that he was unable to complete due to his death. He spells out his purpose in clear terms. Doctors must instill good “real” medical science into the minds of people who have been fed wrong notions by bad doctors:

Or les erreurs et fausses opinions sont si vulgaires et communes en l’ame, que rien plus. Il faut donc qu’elles viennent d’ailleurs, et s’insinuent de par dehors: sçavoir est, de mauvaise doctrine et fausse persuasion. [...] C’est le devoir des medecins de luy dissuader ces fausses opinions et procedures, et l’instruire de faire mieux ce que luy concerne: comme de servir et garder les malades, leur assistant fidellement soubz la conduite et gouvernement des doctes medecins. Aussi faut il, que d’où est venu le mal, procede le remede. La mal, (c’est à dire, l’erreur engendré en l’ame du peole ignorant) est venu de ce qu’il à ouy dire, ou veu faire aux medecins, lesquelz il veut contrefaire, sans aucune fundament. Car ignorant plusieurs et diverses considerations requises, il fait son discours, et syllogissant mal, il se forge de fausses conclusions et erreurs, qu’il tient pour choses vrayes, tirees (comme il cuide) et confirmees de l’experience. Voyla un mal tres-dangereux, duquel les medecins en sont cause, pour avoir trop divulgué et communiqué leurs regles et ordonnances, que le vulgaire prend cruément, et n’en sçait disposer bien à propos. C’est donc aux medecins de remedier à ce mal: à la guerison duquel ie me suis peiné assez longuement, le remonstrant à plusieurs: mais cela n’à guieres servi: d’autant que la plus part, est incapable de raison et discours. Dont en fin ie me suis resolu de remonstrer au peole ainsi desvoyé, ses erreur par escrit (Joubert 1578, fol. a3r–a8v).

[Errors and false opinions are so popular and common in the soul that nothing matches them. Therefore they must come from somewhere else, and creep in from the outside, that is from bad knowledge and false persuasion. [...] It is the doctor’s duty to dissuade him (that is: the Paracelsians) from these false opinions and to instruct him to do his best of what may concern him: to serve and protect the sick persons, to assist them faithfully under the guidance and ruling of learned doctors. Also, the remedy should proceed according to the origin of the sickness. The disease (that is the mistake generated in the soul of ignorant persons) has come from what one has heard said, or seen to be done by doctors whom he wants to imitate, without any basis. This is so because, ignoring many different and required considerations, he makes his own reasoning and

using poorly some syllogism, he draws some conclusions and mistakes that he considers to be truthful, drawn (so he thinks) and confirmed by the experience. Thus, you can see a very dangerous disease, of which doctors are the cause, having divulged and communicated their own rules and arrangements, which ordinary people take in a crude sense, without knowing how to apply them properly. So it is up to the doctors to remedy this evil: the process of hailing on which I have dwelled at length, showing it to many people, but with little use, since the majority of people are incapable of reasoning and dialoguing. Thus, in the end I have decided to show in writing their mistakes to such misguided people].

These declarations—found in the dedication letter to Marguerite of France, Queen of Navarre—give in essence the cause and the purpose of the work. Joubert writes primarily against the so-called “empiric doctors” who disregard the traditional medicine taught by the *auctores* and draw their knowledge from the direct observation of their patients. They follow no general or systematic principles, and their empirical doctrine percolates to the ignorant people. These doctors—who we may identify with the Paracelsians and the charlatans—speak the language of common people and compete fiercely with the traditional doctors, who sounded the alarm as we saw in the case of Du Breil, and did their utmost to protect their guild. Joubert, however, differs from Du Breil, in that he intends to correct the mistakes spread by the new practitioners of medicine, and to do it efficiently he surveys a high number of “erreurs populaires,” resulting from the misinformation originated by poorly informed doctors.

The book is hefty and neatly structured. It contains six parts, the first of which is dedicated to the doctor’s social duties and status; then follows the conception; the pregnancy; the cure of infants; the milk, and the nurture of children. The second book deals with physical needs: complexion, clothing, hair, meals, and digestion. The third talks about eating and drinking habits. Part four is devoted to diseases. Part five deals with cures; and the last part talks about evacuations of all types and purges and laxatives, and finally death. This scheme covers all phases of life and is profusely filled with all sorts of “errors.” Most interesting among them are those concerning conceptions because the origin of life and the quality of the products are often mixed with all sorts of magic beliefs: for example, copulating when the moon is full produces male offspring; a hat put on the stomach of a woman giving birth, eases the delivery; eating a left testicle of animals results in the birth of a female . . . Fighting these popular beliefs, means to combat the midwifery that was invading the profession of doctors, as was the case of barbers who often substituted the surgeons. Another aspect of this book is its language that, besides being in French—that is in a language understood by everybody—, names the sexual organs and their functions without using any metaphors: a fact that caused some scandal but Joubert defended his language usage invoking the principle that he was speaking the “truth” to correct people’s mistakes and had no intention of titillating any fancies.

The book enjoyed remarkable success in France and it was translated into Italian and English. Death prevented Joubert from adding a second part, which we

know only partially. But even in this incomplete form, it remains a very important work. It coined and gave legitimacy to the notion of “*erreur populaire*” which was to acquire currency. It was also given a strongly negative and combative connotation, so what before appeared as new and marvelous, now was considered a mistake and was to be reproved. Take for example the belief that the woman’s womb can contain nine fetuses: this is a strange enough fact to be reported in books of *mirabilia*. A serious doctor should discredit such wrong popular beliefs. It is very important to notice that the notion of “*populaire*” defines not the beliefs of the lowest classes but a type of culture which is in sharp contrast with the “*university*” learning which is based on the authority of the ancient scholars.

The importance of Joubert’s work is proven by the controversies it aroused and in different directions. Dominique Reulin wrote a *Contredits aux erreurs populaires de Laurent Joubert* (Montauban, 1580) in which he reproaches Joubert for having “*revealed*” medical secrets that can corrupt the morality of people (for instance, by disproving the belief that girls cannot become pregnant before the age of nine, he may tempt some girls to make love before that age); doctor B. Cabrol defended Joubert’s language in a lengthy *Epistre apologetique* added as an appendix to the 1601 edition of the *Erreurs populaires*. Half a century later Gaspard Bachot, pretending to fulfill a desire of Joubert himself, updated his work: *Erreurs populaires touchant la médecine et le régime de santé. Oeuvre nouvelle, désirée de plusieurs, et promise par feu M. Laurent Joubert* (Lyon, 1626), departing somewhat from his model by emphasizing the divine intervention on the “*complexion*” and life of the body. A surprising notion of “*erreur populaire*” is presented by J.D.T. de Bienville, who wrote *Des erreurs populaires sur la santé* (The Hague, Gosse 1775), maintaining that some mistakes are caused by medical books when they end up in the hands of readers that read them without using some judgment, so that an excess of medical cures may produce harm. De Bienville wrote treatises on nymphomania and onanism, subjects which may explain what kind of “*excesses*” he had in mind; but without pursuing this theme any further, it is interesting to see that those mistakes are not exclusive to lower classes. In any case, medicine is an area where “*erreurs populaires*” persist even in modern days.⁶

Let us turn our sight to the Italian scene, the primary area of our interests where Joubert’s work found a congenial situation. Here medical science, including the fields of anatomy and pharmacopeia, was more advanced than in other parts of Europe. France, for sure, had some renowned medical centers like Paris and Montpellier, and had exceptional doctors, like Jean Fernel (Fernelius Ambianus), who followed the Galenic tradition but contributed remarkably to enlarging its field; yet Italy made multiple and remarkable advances in a wider area and had prestigious universities such as Padua, Bologna, and Naples where students from all over Europe came to study. But most of all Italy was the land where the Paracelsian tradition in the version of the “*ciarlatani*” had its birth-

⁶ See Coste 2002. Medical literature is so vast that is not even thinkable to indicate the main surveys. Nonetheless we have consulted some of them: Grmek 1997.

place and the strongest presence. The charlatans, still present in today's imagination, thanks also to the caricatures found in the theatre (Molière's *Tartuffe*) constituted a category of alternative medicine regulated by state agencies that released licenses to practice it. Long before other nations, Italy was flooded by booklets of "secrets," or formulas for all sorts of cures (worms in children, colds, skin diseases) as well as for erasing spots of grease, for dying hair, whitening teeth, and so forth, all based on some chemical mixture, thus gravitating towards the field of iatromedicine.⁷ The invention of the press produced best-sellers such as *I segreti* by Alessio Piemontese (1555) that went through innumerable and constantly updated editions, many translations, and imitations.⁸ Most books of secrets were just trash but some were elaborated works by authors who enjoyed a good reputation by all sorts of persons, in some cases even kings. Some charlatans were respected scholars, like Cardano author of a well-known *Libro di segreti*. The most famous charlatan was Leonardo Fioravanti, who enlisted the king of Spain among his patients. He traveled the peninsula throughout and was famous for his "Elixir Fioravanti" and his many "capricci medicinali" or medical recipes. This vast literature constituted a patrimony of "errori popolari" in the eyes of doctors with a university background. And for sure, the hordes of charlatans, midwives, and barbers practicing phlebotomy and minor surgery, represented serious competition for doctors as we saw in France. In Italy, the campaign against these "empirical" doctors started a bit later than in France perhaps because charlatans enjoyed legal protection and the traditional doctor occasionally shared some of their secrets. A famous doctor like Girolamo Fracastoro flirted with the magic tradition, spoke often of the "quintessentia" and the "corpuscular physics" of Epicurean-Lucretian tradition, and theorized about the existence of a dynamics of *simpatia* and/or *antipatia* among the elements of the universe. But he remained primarily a rational or dogmatic doctor and a practitioner of a pharmacy based on the "semplici," or vegetal elements. This celebrated doctor, who studied syphilis and the reasons for the contagious diseases, was also a believer in the role that astrology played in medical science.⁹

This balance, however, was not the norm. In the same town Verona, Fracastoro's birthplace, an admirer of Fracastoro but much more of Fioravanti's, took a fierce stand against the "rationalistic" doctors and advanced the cause of the empirical medicine inspired by Paracelsus. This un-academic doctor was Tomaso Zefierele Bovio who took the name of Zefierele, the angel of fecundity and serenity, which fitted quite well with the mission he undertook in helping poor patients, rather than charging them with heavy bills as academic doctors did. Greed was just one of the "errori" of which he accused the traditional doctors.

⁷ On this category of quacks, suffice to consult two major works: Eamon 1996, and Gentilcore 2006.

⁸ Eamon (1996, 282) lists all the known books of "segreti" published in Italian and in translation, and they amount to 104.

⁹ The literature on Fracastoro is vast. Some indication on Fracastoro and in general on the historical role of the astronomy in the medical science, see Riva 2018.

He attacked them in a series of works whose titles leave no doubt on the *animus* that inspires them. Here are some: *Flagello contro i medici communi detti rationali* (Venezia, 1583); *Melampigo overo confusione de' medici sofisti che s'intitolano rationali* (Verona, 1585), and *Fulmine contro de' medici putatitii rationali, nel quale non solo si scoprono molti errori di questi ma s'insegnano ancora il modo di emendarli et correggerli* (Verona, 1602, firstly published in 1592 with a shorter title). In these works, he promotes his medicines, particularly one he called *Hercules* good for killing worms and curing syphilis or the French pest.¹⁰ In his “empirical medicine” he made large use of herbs known to simple people and recommended particularly those grown locally, which increased their efficacy. He defended the use of magic and astrology. His attacks aroused strong reactions, like the one by Claudio Gelli, *Risposta dell'Eccellente Dottor Claudio Gelli, ad un certo libro contra medici rationali* (Milano, Gio. Battista Bidelli, 1617).

In Italy, the opposition among the schools of medicine was as intense as the one seen in France. But there were some differences: Italy did not have a King to impose general guidance; the presence of charlatans was by far more visible, and the discipline's advancements were greater by far, especially in anatomy (Vesalius, a professor in Padua, Gabriele Falloppio), in embryology (Fabrizio D'Acquapendente, Fortunio Liceti), and pharmacology (Pietro Andrea Mattioli). During the Renaissance “rational” medicine made great strides in areas that were bound to change many notions learned in the traditional works of Galen and Avicenna. Their knowledge was based increasingly on direct observation and it was acquired through “experiments” and confirmed by “evidence,” terms which began to accompany the new findings. Rational doctors showed great concern about the competing medicine that had no traditions, no *auctoritates*, nor revered reference books. Sure of their science, they began to speak of the “errori popolari” spread or perpetuated by the “empirical” adversaries. By that definition, they meant all the beliefs not validated by any academic analysis, beliefs held by large strata of the population, and acquired through the senses and superstitious traditions. Rejecting the “errori popolari” the “rational or dogmatic” physicians attacked the charlatans or Paracelsian who were the major source of wrong notions in diagnostic and therapeutic matters. Combatting these trends, indeed a whole culture became a kind of crusade for the academic doctors. They intended to crush a school of different principles and to save the lives of people from the charlatans *segreti* while at the same time perfecting their knowledge of the body, of diseases, and cures. The fight was not meant to correct or modify specific mistakes but rather to change the way of considering natural phenomena, the very role of knowledge, and the means of acquiring it. It was not a small enterprise to dismantle a set of assumptions, some of them based on the principle that the body is related to the composition and the laws of the cosmos: it required a whole modification of a “mentality.” So we need to see

¹⁰ On Bovio see: Ingegno 1983. Gadebusch Bondio, 2003; Pia Vannoni, 2011; Ernesto Riva, “Zefirele Bovio e la magia al servizio della natura” chapt. XV in Riva 2018, 173–8.

the historical role and the function that the "errori popolari" may have played in the so-called "scientific revolution."

Italy, imitating the French model, produced literature against the "errori popolari." Joubert's work through the translation by Alberto Luchi (*La prima parte degli errori popolari*, Florence, Giunta, 1592), paved the way for this kind of literature. Soon after Luchi's translation, a Roman doctor, Scipione Mercurio—as a friar, he took the name of Girolamo Mercurio—, wrote *Gli errori popolari* (1603), which was quite successful. Previously he had written *La commare*, "The midwife," a book on obstetrics, a rather "popular" subject since it deals with pregnancy and child delivery. From time immemorial midwives substituted doctors, and their area of expertise was the conception and the delivery of children, so it frequently dealt with superstitious beliefs and magic practices. Mercurio's book is quite interesting as attested by its great international success and it shows its author's attention to popular medicine which he finds prone to errors and open to the influence of the charlatans. This subject is fully developed in a lengthy book inspired by Joubert's work.

Degli errori popolari d'Italia was published in 1603 (Venezia, Ciotti) and reprinted several times.¹¹ It is structured in the following way: the first two books deal with the mistakes doctors and other practitioners make in curing sick persons; the following four books deal with the wrong diagnosis due to wrong notions and general ideas on the constitution of the human body and its diseases; the seventh and last book gives some hygienic rules by which to live a healthy and long life. The structure reminds that of Joubert's *Erreur populaires*, but there are original points and insights. For Mercurio, one of the original mistakes is the hostility towards the doctor, a hostility that has historical roots, first in the negative attitude by the Romans towards the doctor and then in early Christianity. Then there are kinds of mistakes made by people such as changing doctors and talking against their science. At the same time Mercurio blames some doctors for exercising their profession poorly: among these untrustworthy doctors are the Jews and the charlatans and the Paracelsians. Other typical mistakes made by doctors are: "servirsi di cirugici, empirici, et Barbieri nelle infirmità gravi de' suoi amalati," thus entrusting one's health to "empirici" rather than to "rational" doctors (Mercurii 1645, II, 8, 205–8). The "errori popolari" concern the notions relative to the body and its diseases, and these are the errors that commoners share with the "empiric" doctors. The list of their wrong beliefs is quite lengthy and this makes it quite difficult to choose good examples. A good one, which is also present in Joubert, concerns the cleanliness of the bedsheets. It is worthy to transcribe some sentences:

Strano humore è questo che regna in Italia, quasi appresso ogni popolo, che il mutare gl'ammalati di lenzuola [e] le camice gl'indebolisca. Io per me, quantunque sopra di ciò habbi spesso fissato il pensiero, confesso nondimeno non aver gia mai saputo ritrovare la causa da cui un cotale errore prendesse sua

¹¹ We consult it in a later edition which is fairly close to the *princeps*: Mercurii 1645. The work had been reprinted in 1615 and in 1621.

origine. So io benissimo che molti errori popolari ebbero il suo principio da qualche radice buona, ma per la mala intelligenza o ignoranza del popolo diventò un errore (Mercurii 1645, III, 12, 217).

[Strange belief is this one found in Italy and spread in almost all of its regions: the belief that changing of bed sheets and gown makes sick people weaker. As far as I am concerned, although I had often expressed my thinking on this matter, I must confess that I was never able to find the origin of this mistake. I am very well aware that many popular mistake originated out of some good roots, but by the wrong understanding or ignorance of the people they became mistakes].

The popular notion that white linen is unhealthy stems from ignoring that filth closes the skin pores and impedes the secretion of bad humors; thus this popular error causes damage rather than a cure. The same argument is found in Joubert (1578, II, 5: “Qu’il faut souvent changer le linge aux febricitans,” 63 ff).

Other frequent mistakes depend on requesting the help of witches and magicians. There are mistakes like washing one’s swollen legs before going to sleep (Mercurii 1645, IV, 19, 326–9). Some others are frequently done by pregnant women, like retaining the feces or taking laxatives after giving birth. Others still are done in the choice of the physical ambiance in which to live, in the dietary and social habits, in exercising, and sleeping, and so forth. Among the mistakes, Mercurio mentions one made by a respected doctor who gave wine to cure a case of diarrhea, and later the same therapy was used by quacks to cure any type of phlegmatic irregularity: it is a case of how good and “rational” medicine can become “popular and wrong.”

In closing his book Mercurio summarizes the purposes that motivated him in writing it. He wanted to write a useful book for the health of his readers. And he wrote it in vernacular because common readers are accustomed to finding vernacular books that retell stories of love and seduction, work of pure entertainment. In this book they will find useful matters for the physical and mental health; moreover, they should know that its author wanted to show that Italian is by far superior to other modern languages (that is French and Spanish) because its writers are superior to anyone. Mercurio is aware of being imitating a French author, but above all, he wants to reassure his readers that he did not waste any time in a superficial effort.

The book is of course very rich but for us is above all the book of an author who wants to dispel “popular errors” in the medical field. Common people, of course, are not to be blamed for their mistakes whose origin and longevity depends to the highest extent on the work of the “empirical” doctor and the charlatans who are their closest collaborators. They are ever-present in Mercurio’s work and constantly blamed for fostering wrong beliefs. Correcting the work of these impostors is an urgent task, one which may change the way of seeing an entire discipline. Mercurio is engaged in an epochal battle in defense of academic medicine and the health of mankind. This high purpose does not allow any benevolence when it comes to mistakes. Mercurio is aware that mistakes in the field of medicine are most often lethal and must be avoided at all costs. But

it is not an easy goal to achieve because popular beliefs have the depth, width, and obstinacy of mentalities, which have no clear beginnings and no one can foresee when they end.

One thing is certain. The notion of "errore popolare" with the meaning described in the works of Joubert and Mercurio acquired currency and was well established in Latin as well as in the vernaculars of Europe. Here are some titles: Jacob Primerose, *De vulgi erroribus in medicina libri IV* (London, 1631); in French: Gaspar Baschot, *Erreurs populaires touchant la medecine et regime de santé* (Lyons 1626); Bienville, *Traité des erreurs papulaires sur la santé* (The Hague 1775); Luc d'Iharce, *Erreurs populaires sur la médecine* (Paris, 1783): these are just some titles of works which are similar but also different because medical science progresses in time. However, we mention them here because they keep the notion of popular error alive till the end of the eighteenth century. We are not able to provide any titles from Spain, although the Iberian cultures experienced the clash between traditional and empirical medicine.¹²

Medicine is such a universal field that any of its profound changes would affect the general understanding of the body's structures and functions and it may even change an entire mentality. Any correction of "popular mistakes" in areas like nutrition or children's care could bring real cultural changes. Another area very similar in amplitude and vital importance was that of religion. There are important differences between the two areas since "right" and "wrong" are clearly distinguished because the Truth is dogmatically asserted by the Scriptures and by the Churches and "mistake" is anything that differs from these two authorities. Mistakes in matters of religion may lead to heresies, and so it was common to speak, for example, of the "errors" of Lutheran, as does the Dominican Ambrosius Catharinus in his pamphlet *Compendio di errori et inganni luterani* (Rome, Cartolari, 1544) and in so many other books that it is pointless to record them here. Theoretically in the Western religions or in the "religions of the Book," there should not be a "popular mistake," since religious creeds are shared by a multitude of believers who collectively constitute the "populus." Yet books and scriptures are subjected to interpretations that can be more or less accurate, more or less simplistic, thus it is possible to incur into some level of approximations that borders erroneousousness. One illustration of this phenomenon is provided by Jean d'Espagne (1591-1659), a French priest who became a Calvinist, lived in Holland and England, and authored *Les erreurs populaires dans les poincts generaux: qui concernent l'intelligence de la religion; rapportez à leurs causes, & compris en diverses observations*, published in 1639 and repeatedly printed and translated. We learn that "popular" is essentially an intense but primitive way of approaching the divine, of understanding through the senses what in fact must be understood with reason. The Scriptures are understood literally because popular interpreters do not know how to read a metaphor and use the criteria of "analogy" rather than their intellectual powers to grasp the revealed

¹² On the subject see Salinas Araya 2016, especially the section "Publicaciones de medicina popular."

truths. So they believe in what their senses suggest and as a result, they have a set of “opinions” rather than a set of truths. This is the gist of all the demonstrations by D’Espagne. His book does not put one creed over another but maintains that religions, as preached by the Christian Church, are “popular,” always looking at the effects without ever inquiring about the causes.¹³ Understood in this way, the Christian religion is popular in that it sees only the surface of things, the forms rather than the substance, thus it is wrong and popular, and its mistakes are widespread. But since this view is shared by theologians and thinkers, it is wrong to consider “popular” as the equivalent of low class. It is a sort of epistemic problem, a way of thinking. Consequently correcting such “popular errors” represents an immense task: only by overcoming this “sensual” or superficial way of understanding the truths of religion, it is possible to attain the salvation that religion promises.

But leaving aside this “libertine” position, which is useful to us only insofar as it provides another nuance to the adjective “popular,” we can understand that the official representatives of our monotheistic religions were not concerned with these kinds of errors. Other mistakes were considered truly insidious and dangerous because they questioned or misrepresent the divine power. These were the beliefs in “magic” which could control reality and offer an alternative to the divine power. What is magic? The subject is immeasurably vast because it embraces many phenomena and was quite alive in that century when the notion of “popolare” began to emerge. To see how vast and insidious magic was to the official religion, let us consider a simple question: what is the difference between a miracle and a magic act? Theologians and philosophers could answer this question, but to commoners, the difference was not obvious, except that in miracles they saw a divine power while in magic they saw a diabolic power. Magic power, witches, and burning stakes were an obsessive presence in the Centuries of the Renaissance and the Reformation. The Church put a check on that obsession by distinguishing black from white magic, the first one being practiced with the help of diabolic forces while the second was just a natural phenomenon that seemed to have supernatural causes. For example, a sweating statue could be interpreted as a miracle or a magic event; it was neither one but just a natural fact: the statue may be built out of a porous material that absorbs humidity which exudates as soon as the external temperature increases. This would be a case of “white magic” explainable by science. It has been noticed endless times that the pre-modern mentality was imbued by magic beliefs, fomented by the neo-platonic and hermetic traditions; it was a mentality that believed that alchemic and occult powers could win the battle against hostile nature, a belief that explains why the Paracelsian medicine had such great following. But as rational explanation gradually changed the understanding of many natural

¹³ The treatise should be read in its integrity, but not being able do so, one should read at least the chapter VII, of section II: “Des raisons populaires, tant en la Religion Romaine, que parmi le vulgaire des Eglises Orthodoxes,” d’Espagne 1649, 134–7.

mysteries these notions were discredited. So many works were written to bring under control the presence of magic and bring a better understanding of the laws of Nature and the real divine presence in the miracles. The apparent "marvels" produced by Nature—"monsters" are an example—were slowly explained by natural laws, although they tended to survive longer among people of the lower cultural level, that is among the "people." In time those beliefs formed a kind of culture, a patrimony of "errori popolari." So much literature was deployed to explain the apparent fruits of magic work that it finally had the impact of creating two layers of culture, one prone to seek for a rational explanation, and another convinced that hidden powers were behind the marvel of this world. We can remember works such as *Il serraglio di tutti gli stupori del mondo* by Tomaso and Bartolomeo Garzoni (1613), which is a kind of encyclopedia of para-natural phenomena such as the one of the sweating statue. Although we have not found any explicit mention of "errori popolari," these works comb a high number of authors who indicate the "causes" of events and facts that seem generated by invisible and unusual forces. In most of them, the prevailing criteria for deeming "popular" a belief (we just saw it in Jean d'Espagne) was the fact that it ignored the causes of the phenomena and trusted the superficial or sensual knowledge. One can remember the Charles Sorel with his encyclopedic *La science des choses corporelles, première partie de la Science humaine, où l'on connoist la vérité de toutes les choses du monde par les forces de la raison, et l'on treuve la réfutation des erreurs de la philosophie vulgaire* (Paris, Billaine 1634) which is only the first of four parts, published all between 1634 and 1644.

France and Italy were not the only places where the "errori popolari" were brought to light and rejected. By the end of the sixteenth century in England Francis Bacon was already engaged in a majestic operation that he called *Instauratio Magna*, which established new principles (a *Novum Organum*) of acquiring knowledge and demonstrating its validity. Bacon was engaged in an epochal battle against all errors which, insofar as they departed from the principles of evidence and experimental proof, were "popular." These new principles are not "logical," which are often the root of mistakes and are the principles on which traditional and particularly Scholastic philosophy ascertained the truthfulness of natural phenomena and historic events. "Vulgar notions" often spring from logical reasoning which does not prove any truth but most frequently reinforce the wrong notions. See the following axiom:

Logica, quae in usu est, ad errores (qui in notionibus vulgaribus fundantur) stabiliendos et figendos valet, potius quam ad inquisitionem veritatis; ut magis damnosa sit, quam utilis.

[Common logic is better suited to correcting and establishing errors which are found in vulgar notions, rather than for searching after truth; so it turns to be more prejudicial than useful] (Bacon 1878, part I, sect. I, aphorism 12, 193).

Bacon promoted the idea of creating a "Kalendarium falsitatum et errorum popularium vel in historia naturalis vel in dogmatibus grassantium" (*De augmentis scientiarum*, III, 4, p. 212, ed. Amsterdam, 1662), thus leaving no doubt as to

the programmatic commitment of clarifying knowledge from popular mistakes. At the end of his work (“*Novus orbis scientiarum desiderata*”) Bacon leaves a list of such mistakes that posterity must correct. Logic proceeds by deducing consequences from supposed causes while a new science must proceed “inductively” going from the phenomena to their causes. Only this way of reasoning is capable of doing away with the *idola* which constitute much of the popular knowledge.

The author who systematically applied Bacon’s method to “popular mistakes” was the already mentioned Thomas Browne in his *Pseudodoxia epidemica*, first published in 1646 and then revised several times until its sixtieth and the last edition of 1672, which carries the subtitle *Enquiries into very many received tenents and commonly presumed truths*. It is a sort of encyclopedia of popular mistakes arranged in seven books under the following topics: 1. General; 2. Minerals and Vegetables; 3. Animals; 4. Man; 5. Pictures; 6. Geography and History; 7. Scriptural and Historical. We have no way to go over this immense survey of mistakes, but as an example, we may mention the belief that glass is poisonous (2, 5), that “bitter almonds are a preservative against ebriety” (3, 7), that “an elephant hath no joints” (3, 1) that “Jews stink” (4, 10) and the likes. Fundamental is the inquiry on what causes popular mistakes. Besides the natural imperfection of man and his dispositions, the “most immediate causes of popular errors, both in the wiser and common sort, [are] misapprehension, fallacy, and false deduction, credulity, supinity, adherence unto Antiquity, tradition, and authority” (1, 4) which are all causes examined in the first book. Popular mistakes are all notions acquired through the senses without any rational filtering and received without ever questioning their origins. They are ingrained in the tradition and overall they reveal a way or system of thinking and knowing, an episteme or a scientific paradigm or a mentality, a sort of cultural subconscious very difficult to grasp and to shake.

The battle took reiterated engagements and from different angles. Just to remain in England, authors like Meric Casaubon (*On Credulity and Incredulity in Things natural, civil and divine*, 1668, and *A Treatise Concerning Enthusiasme*, 1655) vacillated between the classic beliefs and the new science conquests; or authors like Joseph Glanvill who defended skepticism and attacked Scholastic philosophy (*The Vanity of Dogmatizing, or Confidence in Opinions*, 1661) and yet believed in witchcraft (*Saducismus triumphatus*, 1668). In these and many other works, the notion came up constantly that there is a kind of mistake which is rather a belief based on a primitive or sensual knowledge or even on a never questioned tradition. These types of beliefs are widely spread at the low-class level but also among philosophers of certain schools. We have limited our research mostly to the medical where these types of mistakes are ingrained in the culture and are very difficult to correct. But we know that the same types of mistakes are common in the areas of superstitions and magic. Space does not permit us to move into other areas like meteorology and to see how many “imaginative” explanations were given for phenomena like earthquakes and winds and tides. But we must recall at least one case of a wrong belief universally held and simply corrected by an “experiment,” a keyword in the scientific revolution.

Francesco Redi, intending to dispel the notion of "spontaneous generation," is aware that he must face the common opinion, that is learned persons and "il volgo:" "Gli antichi e i novelli scrittori e la commune opinione del volgo vogliono dire, ogni fragidume di cadavero corrotto, ed ogni sozzura di qualsisia altra cosa putrefatta, ingenera i vermini" (Redi 1810, 16). His experiments, as is well known, demonstrate that there is not such a thing, and the generation of insects depends on other animals rather than by the simple process of putrefaction. This notion was shared by all sorts of people before Redi proved it wrong, and whoever kept it alive thereafter committed a popular mistake. Another example can shed light on the nature of such mistakes. It concerns the phenomenon of magnetism known from antiquity. The only explanation given for this unusual phenomenon of attraction was a magic one, and only in the seventeenth century this explanation was substituted by physical law, although the magic cause persisted, as we are reminded by Vico who reminds us that in the popular mind magnetism is seen as a form of attraction better known as "love."¹⁴ Vico points out that "imagination" is often behind the creation of popular mistakes, and this idea was later used by Leopardi, as we shall see.

We have limited our inquiry to the field of "natural sciences" but we could find parallel endeavors in the historical and religious fields. Historical research, using a new kind of critical philology, became engaged in correcting scores of wrong data and turned history into a rigorous discipline based on ascertained facts. The area of religion was in great turmoil not only for doctrinal questions but because the popular cult had filled the churches with so many fake saints that the Bullandists worked systematically to eradicate them from the Catholic calendar (for this house cleaning and for the historical researches, see Cherchi 2020).

The changes sought by the scientific revolution did not happen overnight nor were they homogeneous. They moved along the discoveries which in that century were so numerous as to determine a revolution. The new findings in anatomy promoted many strides in the medical field, so did the cosmological ones, so did the invention of the microscope, and many others in the fields of mechanics, of mining and transportation, and even warfare. They did not come all at one time, but the fact that most of them took place in about a century explains why historians call it the century of the scientific revolution. It must be added that not all innovations had the same cultural impact even when the magnitude of the discoveries would seem to be a decisive factor. We know that the cosmological discoveries remained confined to the academic sphere before reaching the "people," who were much more affected by the ideas on the effects on bloodletting or by the biological discussions on the generation of the monsters.

One change, however, took place across all disciplines: it was the loss of prestige of antiquity which supposedly harbored the origin of many "errori

¹⁴ Vico 1952, *Elementi*, XXXII, 259: "Gli uomini ignoranti delle naturali cagioni che producono le cose, ove non le possono spiegare nemmeno per cose simili, essi danno alle cose la propria natura, come il volgo, per esempio, dice la calamita esser innamorata del ferro."

popolari.” Remember that Thomas Browne saw in the “supinity” to ancient authors one of the main causes of the wrong notions that hampered the new science. Slowly that dependence on the ancients was shaken as many of their *tenents* were proven wrong. It took a long campaign of publications to promote a detachment from the teachings of the *antiqui*, a campaign that is collectively known as the *La querelle des anciens et des modernes*. The pick of this polemic was marked by Charles Perrault’s *Parallèle des anciens et des modernes*, but it had forerunners in some French historians like Luis Le Roy,¹⁵ followed by La Popelinière.¹⁶ Their comparison between ancients and moderns was echoed by Alessandro Tassoni, in his *Pensieri diversi*, and by Secondo Lancellotti, in his *Hoggidi, ovvero il mondo non peggiore né più calamitoso del passato* (1623). In this long comparative process, many “errori popolari” were discovered and rejected along the way. The authority of the Ancients was slowly eroded, and not just because their teachings were antiquated but because they were utterly wrong. Some, like Fontenelle, attributed the modern superiority to the progress of time—human nature cannot change—but others explained it with a different, rational, and experimental approach to reality. Compiling lists of the mistakes made by the revered ancients and repeated by their humanistic admirers was a way of establishing a distance from a long tradition. Error after error and list after list created a divide between ancient and moderns. The notion of “error” had become a keyword also in historical research, and as the light was shed on many aspects of the past events, it became clear that many of them were fabricated by legends or “popular creations,” close to the “fairy tales.” Take for instance the story of Clodia, the Roman virgin captured by Epirote (Albanian) soldiers, who, according to Livy, remained virgin for all the decade of her captivity, and when she escaped with ten other girls, crossed the Tiber wearing full armor and then victoriously fought the enemies. Lancellotti reports this story to prove that ancient had no sense of truthfulness and perhaps made up from scratch the story of Clodia’s, and in any case, they did not reject any manipulation that showed the fantastic heroism of the virgin girl. Lancellotti laughed at this “farfallone,” as he calls this sort of strange mixture of facts and fantasy. But was it a deranged notion of the truth, similar to those myths that a school of thought accepted them as a fantastic way of veiling a truth? The evemeristic interpretations of the myth were as old as the ancient mythographers whose teaching had many followers among the Renaissance mythographers. Could it be possible to find a similar explanation for the “errori popolari?” It was too early to reach that interpretation: for the time being, it was imperative to remove anything that could not be explained with the meter of reason, evidence, experiment, and philology.

¹⁵ *De la vicissitude et variété des choses en l’univers*, whose last book has the title “*Comparaison de ce siècle avec les precedens plus illustres, pour sçavoir en quoi il leur est supérieur, inférieur, ou égale, et premièrement touchant la militie moderne avec l’ancienne, grecque et romaine*” (1575).

¹⁶ In his *l’Histoire des histoires* and his *L’idée de l’histoire accomplie* (1599).

The eighteenth-century brought some changes. For one thing, science was moving away from literature, and the humanistic heritage was not in question anymore or was not with the same urgency. It had also moved away from the vulgar horizon which had a much lower speed of change. Certainly, it was not conceivable any more than a medical textbook would recommend a whispering of the words *Gasper fert mirrham, thus Melchior, Baltashar aurum*, in the ears of an epileptic in crisis to have him jump back on his feet: this recommendation found in the *Lylium medicinalis* (II, 25) by Bernard Gordonius, a leading figure in medieval medicine, was so obviously superstitious that no doctor of the post-Renaissance age would ever use it. Still, popular mistakes persisted, but listing and discrediting them did not seem as important as it was in the previous century. They did not appear to represent any more an impediment for the scientific research since this had neatly separated from the "discorsi popolari" as Galileo said.¹⁷ Perhaps the fiercest hunter of popular mistakes was Benito Feijóo, a Spanish friar who analyzed and ridiculed hundreds of "errori popolari" in his *Teatro crítico universal*. He was active in the first half of the eighteenth century and was living in Spain which in those days was not at the vanguard of European scientific research. Much more interesting from that point of view was the work of Joseph-Maria Lequinio, a French revolutionary and author of *Le préjugés détruits* which attacks la "credulité vulgaire"¹⁸ identified as the religious beliefs and the notion of nobility which the previous detractors of "errori popolari" had never criticized. The "errori popolari" had taken a political meaning which was never intended by any of the previous observers of this particular kind of mistake.

One becomes aware that a real change had occurred when one sees the *Saggio sopra gli errori popolari degli antichi* by Giacomo Leopardi. It was written in 1815 when the author was just 18 years old, but it was published posthumously in 1846. It is a product of the "erudite period" of Leopardi's youth, and in many respects belongs to the tradition we have described. Leopardi quotes many of the authors we have analyzed—in the preface he quotes Joubert, Browne, Feijóo, Lequinio, and Denesle—but he also was aware of having treated it differently.¹⁹ Indeed he begins by with using their premises, namely that "Il mondo è pieno di errori, e prima cura dell'uomo deve essere quella di conoscere il vero." However, he differs from them in that he believes that there is no way of correcting man's tendency to fall into errors. Man tends to believe what he sees and what he hears, so the causes and possibilities and of perpetuating and transmitting mistakes are endless. Popular mistakes occur when rational thinking—that is

¹⁷ Galilei 1874, where Salviati, one of the three interlocutors, speaks about "discorsi popolari" filled of mistakes and "vanità" (Giornata I, 60).

¹⁸ Lequinio 1793, chapt. II, 10: "Qu'est-ce que la noblesse, par exemple, pour l'home qui pense? Sont tous ces êtres abstraits, enfans d'une imagination exaltée, qui n'ont d'existence que dans la crédulité vulgaire, et qui cessent d'avoir été sitôt que nous cessons d'y croire?"

¹⁹ "Chi mi opponesse Joubert, Browne, Feijóo, Denesle, Lequinio, mostrerebbe di non aver vedute le loro opere, o di non aver letta la mia," Leopardi 1997, 60. All quotations are from this edition.

inquiring about the causes of phenomena—is not applied and the primitive or sensual imagination provides the explanation of the perceived reality. This approach is intrinsic in human nature, thus is not possible to change it. In concluding the first chapter “Idea dell’opera,” he states:

Una volta si venerava superstiziosamente tutto ciò che veniva dagli antichi; ora si disprezza da molti senza distinzione tutto ciò che loro appartiene. Dei due pregiudizi l’uno non è minore dell’altro. Si vedrà in questo Saggio che gli antichi non andarono esenti dagli errori i più grossolani; ma agevolmente si comprenderà che il volgo dei moderni non cede loro quasi in verun conto. Non pochi anzi dei pregiudizi che regnavano un tempo sono anche al presente in tutto il loro vigore. Dopo queste riflessioni, il rispetto, non altrimenti che il disprezzo per l’antichità, viene a moderarsi, le età si ravvicinano nella mente del saggio, e si comprende che l’uomo fu sempre composto degli stessi elementi (Leopardi 1997, 66).

[In the past it was normal to hold in veneration all that came from the ancients; now all that pertained to them is despised without making any distinction. Of the two prejudices one is not smaller than the other. In this essay one will see that the ancients were not free from the most gross mistakes; however one will also easily understand that ordinary persons of our days are not better in any way. Actually, many of the prejudices that reigned in the past are still alive in the present and at their full strength. After the present considerations, the respect as well as the disrespect for the ancients became more moderate, the ages have come closer one another in the mind of wise men, and one understands that man was always made by the same elements].

Interestingly, Leopardi documents these “errors” using poetical sources:

Mio intendimento fu di presentare un quadro delle false idee popolari degli antichi, e di descrivere colla possibile esattezza qualcuno dei loro errori volgari intorno all’Ente Supremo, agli esseri subalterni e alle scienze naturali. Per eseguire questo disegno, giudicai di dovere attenermi alla scorta dei poeti. È facile distinguere quando questi scrivono a norma delle opinioni dei filosofi, o seguono un sentimento particolare. D’ordinario essi parlano il linguaggio più comunemente inteso, che è quello del popolo (Leopardi 1997, 65).

[My goal was to present a picture of the false and ordinary ideas held by the ancients, and to describe with the utmost precision some of their popular mistakes about the Supreme Being, the subordinate beings and the natural science. In order to pursue this plan, I thought to follow the path marked by the poets. It is easy to see when they write following the ideas of the philosopher or when they follow their own feelings. Usually they speak the most commonly understood language, that is the language of the folks.]

Leopardi analyzes 18 of such mistakes, starting, as he says, with the goods, going to their messages (oracles, dreams, sneezing, etc.) then passing to the cosmos (stars, comets, thunders, etc.), and finishing up with the animal world (pygmies, centaurs, links, etc.). As he promises, his sources are classical poets, and he does so with amazing control of such material, with a magistry that recalls

giants of erudition like Politian or J. J. Scaliger, and he was just 18 years old! This choice was not without consequences. A few years later, Leopardi considered poetry as an alternative to philosophy in conveying truths, a different kind of truth that soothes the soul: the illusion which is born from imagination and fantasy.

With this conversion, Leopardi was moving closer to the Romantic view of the imagination, the faculty that creates beautiful fables. In that atmosphere, the popular errors lost much of the stigma placed on them by centuries of rationalism and scientific experimentalism. Even the notion of *vulgus* was undergoing an important change and was becoming the *Volk* or *Folk*. The pre-romantic culture in Germany and England was re-evaluating the body of persons who represented the "nation," a sacred notion defined by its values, its ways of thinking, with its beliefs that could not be judged anymore with the meter of "correctness" or rationality. It was a major change that removed from the dictionary of ideas the entry "popular mistakes" and moved them all into the area of "folklore." It was a new classification, a completely new way of viewing cultural phenomena, and where the old "errori popolari" clearly become one of the many categories belonging to a mentality. The simple fact that Leopardi chose to deal with "gli errori popolari degli antichi" rather than "gli errori popolari" *tout court*, places them, perhaps unconsciously, in that remote age where truths often took the form of myths.

Our brief survey of an important aspect of our culture, which can be seen as a contrast between ignorance and learning, requires a much more detailed study than was possible to do in this limited space. But for the time being, it would please this author if it stimulates further research. Sometimes words and formulas that seem to be plain and uninteresting turn out to contain complex histories that shed light on the changes that keep our cultures moving along in the long duration of their cycles.

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