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**FORENSIC SCIENCES, LEGAL DISCOURSES AND THE (RE)  
CONFIGURATION OF CITIZENSHIP<sup>1</sup>**

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## **I. Introduction**

One of the outstanding features of the recent history of legal systems is the growing use of scientific resources to assist in the administration of justice. In

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particular, recent technological and scientific advances in genetics, such as DNA profiling and the production of genetic databases for forensic purposes have been associated with new forms of interaction between the social worlds of law and science. As in several other countries, genetic profiling is sometimes requested by the Portuguese courts, usually in serious crimes and in paternity suits. The forensic sciences are indeed becoming increasingly important as part of the judicial setting. They appear as a particularly clear-cut example of “applied science”, as the rationale for their constitution as a separate field of knowledge is to respond to the needs of courts of law through the production of evidence based on scientific procedures which is admissible according to legal standards.

The intensification of this interaction, often described either as a “scientificization of law” or as a “judicialization of science”, has produced several impacts in diverse areas of society. In fact, at the same time that new scientific fields emerged or saw their development constrained in order to respond to the needs of the courts, new legal issues have raised as well as a growing body of law emphasizing the importance of scientific evidence within the legal process. It also transformed the way legal actors understand science, and raised some crucial issues regarding conceptions of rights and their reformulation in the areas of genetics and information. In the academic field, especially since the mid nineties, the social studies of science began to focus on the presence of genetics at courts, namely by developing a constructivist critical analysis which questioned the cultural authority of both law and science, henceforward seen as historically situated social activities. The social and academic debate on those topics, however, limited to the so-called adversarial judicial systems.

In countries such as the United Kingdom or the USA, the litigation process is almost entirely governed, in principle, by “adversarial” procedures – that is, each part has the opportunity to presented to the court the material on which it relies in support of its case, in form of evidence and argument and to test as thoroughly as it can the evidence and arguments presented by the other part. Forensic scientists, legal scholars and social scientists have pointed out that common law systems often give raise to an artificial polarization of the scientific issues in disputes, encouraging expert witnesses to ‘take sides’ (Oddie, 1991). But the adversarial proceedings have also contributed to construct and reinforce the scientific credibility of various emerging technologies. As Sheila Jasanoff argued, in the case of DNA typing, the adversarial process was both

crucial and successful in exposing the unacknowledged and untested assumptions related to this technology, but also crucial to the process of assessing its scientific and judicial credibility (Jasanoff, 1997).

In Portugal, as in most “European continental judicial systems”, the rules of admissibility of scientific evidence and of expert witnesses are related to a distinctive framework associated to some particularities of the inquisitorial legal systems. In fact, the judge has a rather active power in trial settings – he has a central predominant role in the examination process and in imposing the rules of evidence and of court procedures. The parts can make suggestions or even present their own experts reports, but it is the judge who decides which evidence will be admissible in court and who appoints the expert witnesses. The judge is considered to be the “expert of the experts”.

Usually, Portuguese judges’ decisions on the admissibility of expert evidence is coterminous with a specific ecology of practices which defines the *legitimate producers* of forensic biology and forensic medicine: a National Forensic Medicine Institute – with testing carried out at its three laboratories - and a Scientific Police Laboratory, both institutions being supervised by the Ministry of Justice. Until now, it is relatively uncommon that Portuguese magistrates request scientific reports to private institutions. They do so when public forensic laboratories aren’t able to respond to the courts requests due to the scarcity or inexistence of human resources. This often happens in the case of paternity claims.

Another important feature concerning the presence of genetic reports in courts refers to the fact that some building blocks of rights as we know them in the liberal tradition, such as concepts of personhood, identity, privacy, physical integrity and parenthood, seem to have been affected by the presence of forensic science in the courtroom, at the same time that new rights emerged.

Although in some core countries these issues have been at the heart of public debate, in Portugal, controversies concerning the performance of genetic testing and profiling on people and the possible risks associated with the uses of the information based on it seems to have been circumscribed to the worlds of law and science, and its resonance in the fields of regulation and policymaking has been rather limited.

The magistrates’ perceptions of science – in this case, of genetic technologies – might have a crucial impact on the configuration of the impacts created by this type of

evidence on the administration of justice. By focusing on the Portuguese magistrates' perceptions of scientific evidence, this paper aims to raise some fundamental issues regarding the landscape of legal systems of the inquisitorial type. Indeed, we believe that the magistrates' discourses and perceptions of the potential uses of scientific resources to assist in courts services and the impact of that evidence on judicial outputs can indeed be quite different according to the framing legal culture. Through its focus on legal practitioners' discourses, this paper examines some of the issues raised by the incorporation of these scientific resources in judicial activity, as a social phenomenon located at the intersection of law, science, politics and public policy.

## **II. Science and law: harmony or conflict?**

Despite their differences in objectives, practices and traditions, science and law have in common their intention of exclusivity in defining reliable ways of getting at true versions of events. Both present themselves as the sole model of rationality and knowledge in the narrow field of action they are applied to. How then can the interaction between legal and scientific practices be understood?

After coming into the public sphere, how is scientific knowledge influenced and reformulated by the social and cultural context and, more specifically, how is it reinterpreted and reorganized when confronted with the previous knowledge and experience of the legal system and of its actors? In what ways are the notions and scientific practices, which are to be used in a legal setting, reappropriated and reconstructed? What strategies do scientists develop – outside the field of so-called “pure science” – to produce objects of “applied science”, which have to stand up to evaluation by courts of law? And how are these scientific objects understood and used by “legal actors” (magistrates, lawyers, citizens involved in the lawsuits)? What transformations and reformulations are performed within the legal system in order to articulate or integrate scientific evidence and legal evidence in new hybrid forms of evidence, accountable to both science and law?

How are the possible threats to constitutional rights arising from the use of scientific procedures - such as blood tests or genetic profiling, or the use of information from genetic data bases - in criminal or paternity investigation recognized and dealt with by legal actors? What other rights or duties are created or transformed in relation

to the use of these scientific resources - such as the recognition of the right to refuse undergoing testing versus the duty of submission in the interest of justice or of third parties? In how far are basic notions associated with rights in the liberal tradition – like the notions of identity, personality, individuality, paternity, maternity, affiliation, and family – being transformed by the use of techniques of identification through DNA testing? Are the interests and rights of the different actors involved adequately protected and the duties of the parties engaged in legal action properly defined? Have appropriate procedures for the resolution of conflicts that may emerge between researchers, society and State been created?

Drawing on 38 interviews to magistrates working in different Portuguese courts of law – twenty public prosecutors (two women and eighteen men), and eighteen judges (five women and thirteen men) –, we tried to identify the means used by a specific group of social actors to appropriate science within a particular context. Our aim was the study of a particular configuration of knowledge, in which experts in the field of law try to appropriate and understand scientific resources which are to be mobilized for the production of evidence accountable to both scientific and legal standards. The peculiarity of this situation lies in the way "lay" understandings of science as magistrates uphold them are incorporated into the expert discourse of law. The interviews allowed us to probe into some aspects of this process, in particular the uses of DNA profiling as part of the production of evidence for criminal cases and for the investigation of paternity claims.

Through these interviews, we tried to address some fundamental research questions, such as: What did this group of actors understand as “science” and “scientific evidence” admissible in court? Which factors lead one individual/institution to be accepted as an “expert” or as a “scientist” and others not? To what extent do legal actors rely on experts’ reports? Do there any particular difficulties regarding the magistrates’ understand of scientific reports? How do they manage to overcome these difficulties? Do magistrates impose their own interpretations, for example, when experts seem not to agree or if the scientific reports do not clearly present a straight answer to the questions being asked by the court or by the different parties involved? Does it happen very often that experts don’t agree? Do the parties usually challenge the results of scientific reports?

We also tried to understand how legal and constitutional rights could be constrained, threatened, and modified, enhanced or even extended as a result of the growing uses of scientific evidence in legal settings. In order to explore this process of (re) configuration of citizenship associated with changes in legal practice influenced by the presence of scientific reports as pieces of evidence in lawsuits, we also asked our interviewees to discuss some of the issues related to how individual rights could be affected by the use of forensic medical testing - such as physical integrity or the protection of the individual's private life. The performance of forensic testing on a given individual, however, may be associated in a positive way with the rights of another individual - as is the case of blood testing or DNA profiling in paternity investigations. This may be regarded, on the one hand, as a threat to the physical integrity of the alleged father, but, on the other hand, as upholding the right of a child to his or her personal identity. In fact, some uses of science in legal settings have become a contested ground for different and potentially conflicting notions of individual rights.

### **III. The legal practitioner's discourses on scientific evidence**

The interviews revealed a considerable degree of homogeneity among the discourses of the magistrates. The aspect which seems to be in greater evidence in the relationship this group establishes with science is an attitude of reverence towards the latter's procedures and results – in fact, there is a close fitting of the results of scientific reports to the outcomes of lawsuits. Bearing in mind that the interviews were made in several courts of law and that the information obtained was recurrent, we believe that the results we got are not far from what we could be described as the vision of science held by Portuguese magistrates in general.

According to all interviewees, of all the reports admissible in court produced by experts – from DNA identification reports, autopsies, evaluations of physical lesions, psychiatric and gynecological examinations (those usually performed at the forensic

laboratories supervised by the Portuguese Ministry of Justice) to economic and accounting reports – the ones that enjoy greater credibility are those produced in State laboratories. Generally speaking, the practices that occur within the context of a laboratory are understood as peculiar actions, subtracted from the contingencies of everyday life and of the "external" world and thus highly reliable. Furthermore, as elements of evidence they are extremely welcome in court, because they are seen as a tool that allows the discipline of law in its struggle for standards of objectivity, neutrality and exactness that would otherwise – through the use of testimonial evidence or the judge's "intuition" or "common sense", as well as "good courtroom practice" – be unattainable.

This vision of the specific physical space - the laboratory - and of the scientists who work in it as self-regulated, separated from the "common world", has become clear as we questioned the magistrates on whether they worried about the possibility of laboratories coming up with false results or that, in the context of a criminal investigation, there might be problems with the collection of samples which could distort the results. Every magistrate, without exception, answered that he/she did not think about that. The possibility of laboratory error seemed quite remote and even odd for two main reasons: firstly, because the results of scientific tests admitted in court are carried out by personnel considered extremely competent because they work for the National Forensic Medicine Institute. If the tests were carried out in private laboratories – considered less trustworthy, since they are not backed by official organizations – there could be doubts about the results. Secondly, the work done in a laboratory is seen as an extremely precise activity, its results being based on the use of highly accurate physical instruments, like microscopes, and of materials like test-tubes, objects which are allegedly free from possible distortions due to subjectivity or personal opinion. The scientist is thus seen as a subject - a human being with all his or her weaknesses and biases - which is likely to make mistakes unless (s) he is backed by laboratory instruments which endow him/her with almost supernatural powers: the mediation of the scientific tool is thus a crucial element in achieving "factual truth".

As to the possibility of errors occurring when collecting or preserving samples to be analyzed in a laboratory, the magistrates showed some surprise at the query itself, as if such a thing could never happen. They stated that that was a subject they never worried about, as they trusted the professional capacity of the police forces who

collected the materials for analysis and testing. Besides, if, at any time, there were a problem with the samples, it would probably be detected by the scientists, who would certainly mention it in the reports presented in court – though none of the interviewees knew of any such situation. According to them, the worst scenario case was that of the reports sometimes stating that there was not enough *quantity* of material for the forensic scientists to be able to reach any conclusions. Never did they question the *quality* of the material.

All in all, the magistrates' trust in the technical capacities of the scientists who work in laboratories supervised by the Ministry of Justice seems to be absolutely unshakeable. As far as DNA profiling is concerned, all the magistrates stated that they truly believed in that scientific tool, based on the assumption that “DNA is unique and non-repetitive in each individual” and that “genetics is an extremely advanced and exact science “.

Genetics is seen by the interviewees as an extremely complex science, its understanding wrapped in a number of myths, such as the notion that, somehow, the scientific analysis of the genes will be able unravel our most deeply hidden secrets (like inwards tendencies, potential behaviour and pathologies), and the belief that the field of genetics is somehow characterized by a high degree of mathematical exactness which endows its statements, in turn, with a high degree of certainty (Derksen, 2000; Smith *et al.*, 2000).

In contrast to this trust in genetic testing and profiling, magistrates seem to have doubts about the capacity of other disciplines or fields of expertise, like, for instance, psychiatry, to “find out the truth”. Interviewees stated that in the latter field the expert's subjectivity was likely to affect his/her analysis. In their opinion, mistakes may happen, due to the fact that the psychiatrist does not have material tools that would allow him absolute exactness (as would happen, for example, if they had something like a microscope). The psychiatrist has to rely on the ability to observe with a “naked eye”, which means that the observed can “make a performance” so as to distort the results of the examination. The magistrates pointed out, however, that the psychiatric reports do have considerable weight in judicial ruling, because, as many interviewees stated, *after all, they are medical doctors, so their conclusions are based on scientific knowledge.*

From the early 1990's on, the use of genetic profiling has become common in cases of paternity investigation in Portuguese courts. They are more sparsely used in

criminal investigations, though. According to magistrates, the use of genetic profiling revolutionized the legal investigation of paternity, which was previously limited to testimonial evidence, documentation and blood testing. When confronted with the issue of the validity of “traditional” evidence (testimonial), every interviewee underlined its “fallibility”, as witnesses present their opinions and personal experiences (which are understood as subjective, ambivalent or even “false”), and may even be manipulated to alter the account of events so that the party they represent in the process is favoured. In contrast, scientific evidence is regarded as a reliable representation of the “truth of fact”, being “neutral”, and as such, indispensable to the discovery of “biological truth”. In other words, as mentioned before, legal decisions in lawsuits on investigations of paternity are almost exclusively based on results of DNA profiling.

The biggest obstacle to the full use of DNA paternity typing by courts is the frequent refusal of the presumed father to be subject to it, as it implies drawing blood for analysis. It is the magistrate’s belief that they can indeed refuse the blood tests, because that medical action can be seen as a violation of their constitutional right to physical integrity. Confronted with the question of whether the courts then ask the laboratories to collect other type of biological material for DNA analysis – saliva, pieces of fingernails, or hair (that action possibly being perceived as less “intrusive” than blood collecting) – only one magistrate answered affirmatively. This public prosecutor is an exception among the magistrates, and is even well known among his colleagues for his unorthodox positions. Some of the magistrates confessed they did not know of this technical possibility, whereas some others stated that these were probably very expensive exams (although they did not know how much they cost). The interviewees displayed a limited knowledge of the scientific techniques usable for legal purposes and, more importantly, a great reluctance in altering routine practices.

Though the reverent attitude of the legal world towards scientific evidence based on DNA typing is clear, it is also clear that legal actors try to reconcile testimonial evidence (seen as a rather fallible kind of evidence) and scientific evidence in their practice, as a means to uphold the boundaries between the methods and the practices specific to the worlds of law and of science. In this process of construction and flexible and casual negotiation of boundaries, the magistrates’ reverent attitude towards science is maintained, but the legal setting for the presentation and evaluation of scientific evidence allows the continuity of the rituals and the rhetoric traditionally present in

trials. That is, although the magistrates believe that scientific evidence – more specifically, genetic profiles – is the deciding factor in the lawsuit, they consider it necessary to keep on calling for witnesses in order to preserve the specificity of the legal apparatus.

The magistrates were also asked if they experienced any difficulty in communicating with the experts or understanding the scientific reports. Although most interviewees admitted to a certain difficulty in understanding some reports – especially psychiatric and economic ones – they believed that any such difficulties can be easily overcome, either because the jurists accumulate experience in the field of judicial practice, or because there is an agreement of sorts among the magistrates: the results of scientific reports are to be accepted without question. Some of them said they asked for some informal help, from friends – medical doctors or economists, for example. There seems to be little direct contact between magistrates and scientists.

Not only the magistrates but also lawyers, witnesses and other social actors involved in lawsuits seem to show reverence towards scientific evidence. In fact, contrary to what happens, for instance, in the U. S. A., there is little or no tradition of openly challenging evidence in the courtroom. There is only one area in which this routinely happens – economic reports. The interviewees as being based on two main factors explain this phenomenon: first, economic science is not as exact as the laboratory sciences for example, because the expert does not have the tools to get to "absolute truth". Secondly, and in so far as huge amounts of money may be at stake in the lawsuit, there is always pressure from private interests that can distort the experts' performances and lead to divergent results.

This quasi-total lack of opposition by the different parts to scientific reports presented by experts nominated by the court is nonetheless surprising. Maybe some explanations can be found if we think that in the majority of lawsuits, the population involved belongs to less well off social classes – both economically and culturally. According to studies on access to justice, class greatly affects the capacity for litigation within the judicial system. The higher propensity towards challenging scientific evidence in economic lawsuits may be linked to the fact that it generally involves people with great economic power (usually more willing and financially able to challenge the courts' or other parties' experts). Thus, and not unexpectedly, we may say that the use of science in courts can be conditioned by extra-judicial factors.

Before deciding on a sentence, magistrates frequently request reports based on social inquiries on the character, personality and social and domestic background of the accused (in criminal cases) and of the minor's mother in paternity claims (a social inquiry on the alleged father is not requested, though). Bearing that in mind, we also asked the magistrates about their perception of social workers' skills and functions. In particular, we tried to find out whether magistrates perceived social workers as “experts” or as “scientists”.

All interviewees answered that they thought of social workers not as scientists or “true experts”, but neither were they described as “laypeople”. As one magistrate said, *They are on the border between science and common sense. You see, they have an academic degree, but they don't use any rigorous methodology to reach their results. You can't find any mathematical or statistical models in their reports. Their statements are based in their own opinions based on what they can observe and hear from the neighbours of the people involved. Everything is quite subjective...*

*“And so, do social reports help you in making decisions?”* we asked. *“It is another piece of evidence. Of course I believe more in statements by social technicians than in witnesses, who tend to lie a lot! But, of course, I don't think that social inquiries are as trustworthy as genetic tests, for instance!”*

This extract of one interview points towards some factors that lead some individuals/institutions to be considered as “experts” or “scientists” and other not. One of those factors is related to the kinds of instruments used by the individuals to analyze empirical reality and to produce results. As we pointed out before, the use of physical instruments that are perceived as “exclusively used by scientists” – such as microscopes or test tubes – is highly valued. On the contrary, the use of individuals' own senses (like the “naked eye”) is evaluated as basically similar to common sense, and then devaluated. But how to explain, then, the difference between magistrates' evaluation of the psychiatrists' and social technicians' reports? The classification of the psychiatrists as “scientists, after all” despite the fact that subjectivity can distort their analyzes and the denial of that status to social technicians reaffirms social hierarchies and power structures existing in society. Gender distinctions also pervade that difference of evaluation of psychiatrists and the social technicians, since common sense perceives the former as being usually male (and therefore, capable of being rational and objective) and the latter as female (and, therefore, more liable to irrationality and subjectivity).

#### **IV. Law/Science and citizenship**

The use of science in the public sphere – in the case at hand the courts of law -, namely the identification through DNA profiling in criminal investigations and in paternity or maternity claims, has led to intense legal debate on the issue of citizens' rights concerning the performance of scientific testing on human beings. Several questions have triggered the debate in some countries. In Portugal, the public debate has been circumscribed (Costa, 2000), basically limiting itself to the legal field and, in part, to the scientific field. Some discussion is being promoted of general ethic and legal problems associated with the obligation to comply and to the refusal to submit to testing or profiling. These questions are being turned into fundamental issues for the construction of the future of citizenship, of the State and society's acceptance of responsibility for the paths taken by the scientific research in areas that can endanger the fundamental rights of the citizens.

One of the issues most discussed by legal scholars concerning the use of scientific testing on people in legal investigations has to do with the legal construction of the human body and the division established between “strictly personal” parts and products of the body – like blood – and “non-strictly personal” parts of the body – hair, fingernails and saliva (Oliveira, 1999).

Portuguese jurisprudence has been divided in the discussion about the legitimacy of imposing compulsory blood tests on investigations of paternity. One party defends that the refusal to submit to a blood test is legitimate, as it can be seen as an action that offends the fundamental right to physical integrity and to the protection of private life. The other party – the dominant one – considers this refusal illegitimate, though forceful submission to the examination is illegal. To impose the examinations by means of physical coercion would be a direct violation of physical integrity.

While the presumed fathers' refusal to undergo blood tests for DNA identification is benevolently accepted by the magistrates we interviewed (*“He has that right, you know? He may have an absolute terror of needles or for religious reasons he may oppose the taking of blood samples ”*), the same does not happen where criminal investigations are concerned. In a crime situation, the interviewees state that although the constitutional principle being discussed can still be raised, they know of no suspects

that refused to undergo the medical examination. Apparently, the refusal to collaborate in an investigation of paternity is “less serious” than in that of a crime, despite the fact that the defence of rights other than those of the defendant guaranteed by the constitution is at stake in both cases: in an investigation of paternity, the right to the child’s personal identity and to its own genetic information; in a crime, the victims’ rights.

The clash of fundamental rights raised by the issue of subjecting people to medical examinations, mirrors, through the practice of courts of law, the powers and hierarchies previously existing in society. That is very clear when we get to the gender distinctions that are upheld in the case of investigations of paternity. The Portuguese State aims at investigating a child’s paternity in two ways: by asking the mother of the minor about her sexual partners in the period of conception of the child and by performing genetic examinations of the child, the mother and the presumed father.

The questions asked the mother (even if she does not wish to tell who the child’s father is) about her sexual life may be seen as a threat to her constitutional right to privacy. However, in the interviewees’ opinion, in this situation of conflict between the rights of the child and those of the mother, the child’s rights must prevail. The legitimacy of this authoritarian relationship between the State and the women is ideologically justified with the argument that the minor’s essential rights – namely his/her constitutional right to personal identity and to access his/her own genetic information - are being defended. These are understood as closely related to a hypervalorization of the function of the genes in the construction of the personal and social identity of the individual, in so far as the determination of biological ascendancy (for psychological, medical and financial reasons) of a child whose paternity is not legally determined is seen as a means to safeguard some of his/her constitutional rights.

Now, in so far as the presumed father’s refusal to undergo a blood test is concerned, the magistrates believe that the individual’s right to physical integrity should prevail before the minor’s rights. When, during the interviews, we confronted the magistrates with this discrepancy between the judicial defence of the mothers’ rights and those of the alleged fathers, almost all of them showed some discomfort with the issue being raised.

Thus, we can state that the use of science in the courts is mediated by a patriarchal ideology, one that reaffirms the power of men over women. This is also visible in the

fact that in the cases of investigation of paternity in which there is suspicion of prostitution on the part of the child's mother the court does not order a laboratory test, even if the mother indicates a presumed father. The obstacles raised to DNA paternity typing in the cases of prostitute mothers show a situation of inequality in the access to justice, sanctioned by the use given to science in the courts.

Besides the usual problems caused by the judicial imposition of exams on people, the study of DNA profiles raises other worries that have been underlined by legal doctrine, be it Portuguese or international, and that are related to the risk that these exams could be used to supply personal characteristics of genetic expression, which could be used institutionally or otherwise, beyond the identification of the examinee – information that is already provided by the traditional fingerprint databases (Oliveira, 1999). If databases with genetic information become easily available to official entities it would be tempting indeed to begin to systematically collect the DNA of every citizen or group of citizens predefined in some way (age, ethnic group, sex) with the objective – either explicit or not – of intentionally broadening the research beyond the investigation needs established by the law. The magistrates were questioned on the advantages and disadvantages of the use of a genetic database for criminal investigations. A significant percentage of them did not know of the possibility of using genetic profiles for the identification of criminals and none of them knew of any case in which this technique was used to identify crime suspects. The majority of the interviewees pointed out the danger of using this kind of information otherwise than in a criminal investigation and, in general, were suspicious of and unreceptive to this technique. This leads to the conclusion that the legal system is extremely conservative and that only after a certain scientific technique begins being used in several courtrooms is it accepted without reservations.

## **V. Conclusion**

Accepting the conclusions and the paths open by the more recent developments of the social studies of science, we understand that the meeting of forensic medicine with the judicial system creates “trading zones” and boundary areas where the different fields of knowledge and practice – of science and of the legal system - meet and transform each other through the definition of concepts and statutes, of roles and competences needed in order to function in those hybrid spaces and that allow for the resurgence of a

platform where sharing and co-operation is possible among the actors embedded in very different contexts and related in different ways to the understanding and use of scientific procedures. (Nunes, 2000: 82; Galison, 1996).

The increasing presence of results of genetic profiling for individual identification in lawsuits taken to court has led to further reflection by the social scientists (Jasanoff, 1997; Lynch, 1998) and has created the urgent need to discuss some of the current institutional uses of genetic information. In our perspective, the Portuguese legal system is in itself an area of social interaction in which not only some specific traits of the process of understanding and public use of science can be perceived with a certain clarity, but also the open possibilities for institutional and political control of the individual based on biological categorising can be followed.

We also have to consider some specific traits being raised by the presence of genetic technologies in the Portuguese courts. In fact, the specificity of the judge's role in the so-called inquisitorial judicial systems outstands how genetic expert reports are perceived by the magistrates as a type of evidence that is indeed on the track of absolute truth, or at least, as constituting all that is worth knowing in trial. Traditionally, law was perceived both by jurists and by social scientists and philosophers as not being concerned solely with factual truth in the scientific sense (i.e., as the binary oppositions between "wrong"/"right" and "false"/"true" reveal). In fact, the dependence on the legal and legitimacy and accuracy of the ways of producing evidence admissible in court and other institutional and formal requirements, as well as on the society's larger concerns has been seen as a specific feature of the judicial world. The presence of genetic resources in everyday use in the administration of justice and the almost absolute reverence of the portuguese magistrates to that kind of scientific reports, can deeply change that panorama, reinforcing the legal actors submission to the 'wonderful' world of science. This problem is particularly relevant to inquisitorial judicial systems. In fact, unlike the adversarial legal systems, that relies on the clash of opposing viewpoints before a relatively passive tribunal that then adjudicates, the Portuguese magistrates actively inquire the parties in to the "factual truth". Some authors stand that the latter judicial systems are more dependent on expert reports, perceived as the 'rational way of going about things', whereas the former seems to have little to commend it (Oddie, 1991) Still, as we have pointed that, the effective application of genetic evidence both in criminal as in civil cases, is strickly and criteriously controlled

by the magistrates, according to their own subjective system of values that will define which are the cases that are worthy or not to proceed to that kind of evidence.

The ideological enfolded use of genetic information emphasizes the practical utility and large public benefits. However, the perception of the possible risks associated to this kind of systematic hoarding of genetic data made possible by the scientific research in the field of genetics triggered a legal debate on the danger of violation of the fundamental values of democracy, the safety of citizens and the respect for freedom and the exercise of fundamental rights constitutionally guaranteed. The problem is that this discussion was not brought to the public in a dynamic, visible way, as it was done in other countries.

All in all, we are facing a scientific information deficit panorama as far as the actors of the judicial system are concerned (the majority of the interviewees never had any training in the sciences, not any information other than that received during their university years and in the training courses for magistrates). Besides, any dialogue between scientists, magistrates and citizens is quite limited. Bearing all this in mind, it is foreseeable that there will be many obstacles in Portugal to a wide public discussion on the molecular genetic techniques and their uses, on how to regulate them and on the potential threats their unregulated use may bring to the citizens.

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