Like Moses' Staff: Pathological Inheritance as an Argument for Medical Vigilance of Consanguine Marriage in Mexico, 1870-1900

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This paper analyzes the discussions in the field of legal medicine in Mexico about the prudence of regulations concerning intermarriage that were decreed in the civil codes for the Federal District of 1871 and 1884. It shows that the heated debate forced the authors of the regulations to struggle for the need for medical vigilance of marriages between relatives, as a preventive measure sustained in a nihilistic vision of the pathological inheritance. The paper concludes by proposing a philosophical analysis that abandons the old fields of the "external" and the "internal".

Keywords: pathological inheritance; consanguinity; civil rights; Mexico.

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In a paper about prevention of inherited diseases, Mexican physician Ramón Rodríguez y Rivera (1885, p.38) quoted a sentence from the *Fisiología del matrimonio* [The Physiology of Marriage] Honore de Balzac (1853-1855, p.576): "Balzac said that medicine, like Moses' staff, makes and unmakes generations. I, in a parody of this thought, would say that a doctor, similar to Moses' staff, should make clean and pure water spring forth from the rocks. This was said to be the doctor's mission, to look not only at the present, but at the future of humanity, whose well-being is trusted in him".[1]

Rodríguez y Rivera clearly illustrates the position that many doctors took in relation to the issue of inherited pathologies in Mexico in the second half of the 19th century. At the time of the publication of his work, the idea was common in Mexican medical thinking that therapeutic action on constitutional or hereditary illness was impossible (therapeutic nihilism), and as a logical consequence, there was a clear conviction that the family related pathologies should be prevented (instead of cured), by treating and controlling the transmission of these phenomenon between generations. The act of creating generations, or that is matrimony, as a ritual and social expression of a series of intimate events that lead to procreation and inheritance, was the starting point for Mexican medicine, concerned with pathological inheritance, and was the focus of its discursive energies. In keeping with the paraphrase of Rodríguez y Rivera, a doctor concerned with pathological inheritance and its prevention should make spring forth pure generations from the ancestors.

More specifically, among the projects proposed by various doctors concerned with the issue of pathological inheritance was that of consanguine marriage.

The medical analysis of consanguine marriage began with a new analysis of the issue in the context of the discussions about pathological inheritance avoiding traditional moral lecture about it. In other words, the first medical movement consisted in sustaining that the union between relatives was significant, in terms of a debate that was not directly moral in legal and religious terms, but strictly "scientific" and "objective" in medical terms. With this recodification of the consanguine union, doctors had the opportunity to elaborate a certain judgment or judgments about the prudence of the regulations concerning these marriages found in the modern civil law that was established in Mexico in the Civil Code for the Federal District in 1871. But even more, this first scientific-political mission, which arose from legal medicine, extended to the reconsideration that consanguine matrimony was not a "de novo" source of hereditary pathologies, but the occasion by which a morbid germ would become stronger, in the same way that it would in any union that would join the afflicted constitutions of families that were not necessarily related. Logical consequence of this was to be suspicious not only of consanguine, but of all kind of marriages.. Therefore, in this study, I dedicate myself to analyzing how some 19th century doctors treated and were able to remove consanguine unions from the "black box" through a discussion of pathological inheritance, to evaluate the suitability of the legal measures concerning consanguine marriage, to discuss the prohibition of matrimony of those affected by hereditary pathologies and, in general, to promote the principles of prevention for marriage in general, which would allow clean water to spring from the surrounding rocks.

In this context, for the second half of the 19th century and the following years, the medical community was in search of autonomy in relation to the State, social recognition

and power. The management issue analyzed here was one more way to legitimize medical power in relation to another social realm, such as marriage. Different from some texts about these issues, this paper does not review the medical movements in the social context, because we do not recognize a clear distinction between the scientific and social fields, but how arguments from an "internal" realm, were adjusted to impact an "external" realm (to use classical terminology).

Agostoni (2001, p.109), for example, said that the doctor at the end of the 19th century was "a man of science and of study, but also a responsible individual who intended to occupy a respectable place in a society that was undergoing profound social, economic and occupational transformations". This respectable place, according to Agostoni (2001), was managed by means of certain actions in a social realm that could smooth the way for medicine to be understood as scientific, having resolved important medical and biological problems. "The consolidation of the medical practice as an eminently scientific activity is due, in part, to the advances made in the medical sciences during the course of the past century…" but "the growth of science…is not an element which on its own had led medical professionals to acquire cultural authority, economic power or political influence" (p.98-99). According to Agostoni, these professionals achieved this through social management in which they used as rhetorical tools, the fact that they belonged to a medical tradition, and followed a certain *ethos* or deontology.

This type of rhetorical movement of doctors is reviewed in a number of works (Agostoni, 2001, 1999; Carrillo, 2002) that provide a philosophical perspective about this very particular science. Thus, the medical campaign for power, autonomy and recognition is an action that could take place after the natural realm had been dominated, or at least after a series of epistemological victories in the field. It involves treating the social as an additional and necessary step after the conquest of the natural and scientific.

Using a different perspective, this article will use a less classic ontology and epistemology that do not distinguish between epistemological and political achievements, or between the triumphs over nature as a *sine qua non* condition for the social campaign of doctors. It proposes that to understand the role of the medical community in society, it is necessary to review the construction of the scientific, medical facts, and that there are no realms external and internal to science, and thus there is no type of knowledge which is generated in one of this and applied to the other one (González, 2007). Therefore, this method of investigating the origin of the medical struggle for social recognition, power and autonomy, involves reviewing the statements about nature and its application to the social. It involves a very Latourian review (Latour, 1991a, 1991b) of the episode of how doctors, in the search for a social impact, sought control over matrimony through a necessary adjustment of the facts of biological inheritance.

Legal Medicine and Consanguine Marriage

Legal Medicine was one of the medical fields most involved in the issue of general and consanguine marriage because its concerns about civil and legal affairs.. This was developed and taught in the Escuela Nacional de Medicina [The National School of Medicine] (ENM)

since its foundation and even before; when it was the Establecimiento de Ciencias Médicas [Establishment of Medical Sciences] (Flores y Troncoso, 1982). Amid a notable group of Mexican legal doctors who developed this field of studies, the most notable of all was Luis Hidalgo y Carpio.

In terms of legal medicine, Francisco de Asís Flores y Troncoso, in his extensive work on the history of Mexican medicine, cites, among the basic texts that had been used at various times in the legal medicine courses at ENM, two that were written by the Mexican Hidalgo y Carpio: *Introducción al estudio de la medicina legal mexicana* [Introduction to the Study of Mexican Legal Medicine] (Hidalgo y Carpio, 1869) and *Compendio de medicina legal, arreglado a la legislación del Distrito Federal* [Compendium of Legal Medicine, Arrangement of the Legislation of the Federal District] (1877) (written together with Dr. Gustavo Ruiz y Sandoval). In addition to these texts by the Mexican author, he cites other works by mainly French and Spanish authors (Briand, Brosson, 1828; Bayard, 1844; Peiró y Rodrigo, Rodrigo y Martínez, 1832; Mata, 1846; Briand, Chaude, 1879; Casper, 1862; Paulier, Hétet, 1881). A number of these present a concern for the issue of matrimony in general -the pertinent age for marriage, impediments to its realization and causes for its annulment Nevertheless, the theme of consanguine marriage was little mentioned. In contrast, the works of Hidalgo y Carpio gave space to the issue including scientific, clinical, theoretical and statistical evidence important to the legal regulation of marriage among relatives.

The works produced in foreign countries addressed themes such as the proper age for marriage and reproduction, the consummation of marriage, the form of verifying male and female impotence, the determination of madness that would nullify a marriage, but do not treat the pernicious, beneficial or innocuous nature of consanguine matrimony. The silence about this issue of some French and Spanish texts appears to be caused by a previous moral evaluation of the issue. For example, when the Spanish author Mata addressed the subject (Mata, 1846, p.26) he stated "Concerning matrimony, for it to achieve its purposes, it is indispensable that the people who enter the contract, freely consent to do so and have the capacity prescribed by *nature and by the civil and ecclesiastic laws, which for us are united*" (emphasis by the author).

Different from the silence about the issue of consanguinity in the majority of the foreign texts, those of Hidalgo y Carpio dwelled on the theme and demonstrated a deeper interest in finding information about the issue. In his Introduction, after speaking of other factors of matrimony upon which a doctor is called to give an opinion, he states: "Kinship, in given degrees, which before this century was not an impediment to marriage, if not for moral reasons and which could appear to someone as a mere caprice of the canonical and civil laws, are now supported, relatively, by important statistical studies of which it is important to have a certain understanding" (Hidalgo y Carpio, 1869, p.69).

Hidalgo y Carpio dedicated himself to the task of analyzing information about the important regards about consanguinity and its pathology or benign nature. In this process, he delineated the form in which the notions of pathological heredity were organized and circulated in his thinking and finally, upon sustaining his own position, made a series of recommendations that are representative of the preventive aim of this issue. On one hand he presented studies that sustain the pathological nature of consanguine marriage, to the

extent that the works of M. Boudin (jul.-dec., 1862) and Arthur Mitchell (1864-1865, 1865, 1865-1866) were extensively cited. Based on the first author, it could be concluded that the high frequency of deaf children and those with speaking impediments from consanguine marriages was totally independent from a morbid inheritance (that is to say that healthy, consanguine parents could yield deaf and speaking-impaired children and that deaf and speaking-impaired parents who are not consanguine only yield deaf and speaking-impaired children as an exception), that deafness and speaking-impairments could be produced indirectly in the children (the grandparents in the consanguine union could produce deafness and speaking-impairments in children who are the product of a non-consanguine union) and that in addition, this type of union would also favor infertility and miscarriage in the parents, and among the children albinos, mental disturbances, mental retardation y retinitis *pigmentosa* among other disturbances (Hidalgo y Carpio, 1869, p.69-71).

Mitchell's works led to a similar conclusion: consanguine marriages produce a greater quantity of deformities. Moreover, Mitchell not only maintained this but explained the exception to the rule appealing equally to exceptional hygienic conditions among small populations. When making these explanations, he also invoked the existence of problems that "excused" the children of consanguine unions but not the grandchildren who were depositaries of morbid germs that their grandparents left in their parents; that is, he recognized atavism (Hidalgo y Carpio, 1869, p.71-73).

In contrast to the positions of Boudin and Mitchell, Hidalgo y Carpio commented on the thesis of Auguste Voisin (1865) who assured that consanguine marriages, if they took place in hygienic conditions, would not damage the offspring or the race in any way, but would at least exalt the qualities in the same way that they would exalt defects and causes of degradation. He based his assertions on a statistical study of the municipality of Batz, in France, in which consanguine unions were frequent, yet there was an absence of deaf or speaking impaired or mentally retarded children (Hidalgo y Carpio, 1869, p.74).

Hidalgo y Carpio concluded with a unique perspective with two interesting features: an intermediary thesis between those of Boudin and Mitchel, on one extreme, and that of Voisin on the other. Yet he strongly condemned the measures that at the time in which his work was published (1869), were soon to be decreed in The Civil Code of 1871 (México, 1870), suggesting a certain toughening of the measures that it established, to propose to lead them to a degree closer to that of canonic law that was more restrictive than the civil, in terms of consanguinity (in collateral line, the canonic proscriptions extended to the fourth degree in their calculation, which would be equivalent to the fifth degree in civil calculation in unions between uncles and nieces):

> [I] reached the conclusion, that if it is certain that consanguine marriages generally degrade the human race and produce deaf and dumbness, mental retardations, imbecility and occasional other infirmities, their influence is not so fatal that they cannot be mitigated or nullified by good hygienic circumstances; but since in most cases people and public administrations are not able to change the circumstances that most expose families or populations to such diseases, it is most prudent to prohibit marriage between relatives *until the sixth degree in a collateral line* [until second cousins, for example] *according to civil calculation*; that is to say [forbid it] between *uncles and nieces*, and *first and second cousins* (Hidalgo y Carpio, 1869, p.74-75; italics by the author).

Referring not strictly to consanguine marriages, but to impediments to matrimony in general, Hidalgo y Carpio (1869) considered that clinical analysis and prevention of pathological inheritances were necessary to regulate marriage: "Some authors have expressed desire that certain hereditary illnesses, such as madness, epilepsy and others, constitute legal impediments to matrimony, which obliges me to address the issue of inheritance even if superficially". (p.91).

Thus, Hidalgo y Carpio dedicated himself to reviewing the phenomenon of pathological inheritance to determine the basis for prevention to be inscribed in marriage laws. Upon conclusion, and a bit skeptically, he abandoned the possibility for such regulations, due to a certain lack of explanatory coherence of the phenomenon of pathological inheritance (because of the phenomenological vagueness) which created a certain operative impossibility for medical judgment. The discussion that led him to this conclusion began with the same conceptions applied to hereditary pathology. In the first place, for Hidalgo y Carpio, inheritance was a fact that was beyond any doubt, it was as undeniable as the transmission of the ascendency to descendants of physical and moral characteristics of his or her constitution and temperament. Secondly, and along with the similarities that existed among members of a single race or family and which implied inheritance, there was diversity, *ineidad*, which, according to M. Lucas, along with inheritance, were the two laws that governed procreation of living beings. Hidalgo y Carpio recognized (1869, p.91-92) that *ineidad* was a certain capacity antagonistic to the development of predispositions; that is to say that in certain families with predisposition to some infirmity, there could be individuals that because of *ineidad* do not display the physical and moral qualities notable in the parents and therefore had to be considered exceptions to that illness.

Although he did not say much more about this issue, he related this property, *ineidad,* to the phenomenon of atavism in the form of infirmities that jump from the first to the third generation, remaining in the intermediary generation as a potential state. To this class of illness, he said, belonged mental disturbances, hypochondria, epilepsy, tuberculosis, asthma, cretinism, rheumatism, gout, hemophilia, "San Lázaro's disease", "Greek elephantism" and others. There was, however, he continued, a second type of hereditary illness; that which came from a germ that the parents deposited in the children and which unfailingly arose in them, producing identical suffering. This kind of hereditary illness does not jump generations; and to this class belonged principally syphilis (Hidalgo y Carpio, 1869, p.92).

But the most important question raised by Hidalgo y Carpio, and which takes us to the theme of medical judgment about the regulation of marriage, was what can a legal doctor say or do with this limited knowledge and concerning its connection or synchronization with the legal regulations about the approval or disapproval of marriages? He expressed his concerns in a somber tone:

> It is seen by the enumeration of illnesses that I just made, that if they must constitute an impediment or annulment, [2] how many new impediments will legitimate marriages find to their realization?; How many pregnancies are needed to verify the pathological antecedents of the spouses?, given the need to go back to their grandparents; How much uncertainty in the data that support this verification?; How difficult is the determination of the true origin

> of the infirmities? with many of them being hereditary and others random; and finally, How can it be known if pathological *ineidad* is completely verified in the person being examined? (Hidalgo y Carpio, 1869, p.93; italics in the original).

Hidalgo y Carpio concluded that this accumulation of explanatory, theoretical and operative problems should determine that one leave with the families the care for impeding marriage with a person with a hereditary infirmity. It should thus be the judgment of individuals and not of the doctor, the courts or public administration, which should act in cases such as these.

Without concluding that the legislators had heeded Hidalgo y Carpio's recommendation, the Civil Code which was enacted one year later (Mexico, 1870)did not include any regulation to impede marriage by those affected with any inheritable pathology. The code determined as one of the impediments to marriage only "constant and incurable madness" (*artículo* 163, *fracciones* I-IX) and among the causes for divorce mentioned dementia, contagious diseases and "other calamities" (it never used the term "hereditary") as a motive for a judge to order a termination of cohabitation but not divorce in the contemporary sense (México, 1870, p.34).

A commission of jurists charged with revising the Sierra O'Reilly Civil Code of Justice (Sierra O'Reilly, 1861; Teran et al., 1897), which preceded the Civil Code of 1871, devoted a few lines to the issue, which spoke of the awareness of the danger and the need to terminate cohabitation if one of the spouses had a contagious disease, very much in the context of the lack of conditional divorce and arguing for and attending to a series of measures specific to the nature of marriage conceived in that regulation, but without demonstrating any concern for the consequences of the illness on the children (Sierra O'Reilly, 1861, p.18).

It was not until the Civil Code of 1884, which replaced that of 1871, that was included terminology that involved a hereditary concept of marriage regulation. Marriage's impediments in the 1884 code contemplated the same as those in the previous one (Mexico, 1884, p.22-23), nevertheless, it indicated among the reasons for divorce: "A chronic and incurable infirmity, which could also be contagious to the *heirs*, prior to the celebration of the matrimony, and of which there was no knowledge by the other spouse" (p.30, *artículo* 227, *fracción* XI; italics by the author).

The origin of the language could not be attributed directly to the medical discussions. Nevertheless, the route taken after 1884 could easily be traced through to the Family Relations Law of 1917 (promulgated by the Constitutionalist Government of Venustiano Carranza amid the revolutionary conflict) (México, 1917) and to the Civil Code of 1932 (Mexico, 1928), with important variations in the meaning of its recommendations; the language shifted from establishing one of the causes for divorce to one of the impediments to marriage.

Between the two laws, language was added with an increasingly extensive series of pathologies, abandoning the generalization that served the potential power of the judge to forbid marriages among people afflicted with consignable but undetermined illnesses, to become singular, nosological entities to which a judge should respond. But the legislation did not call for any other professional to pass judgment on the existence or not of these pathologies. This did not come into being until the Civil Code of 1932.[3]

Returning to the work of Hidalgo y Carpio, he noted and increased his references to the authors who wrote about them in his text of 1869. In 1877, he also discussed the issue of consanguine marriage and commented on a new issue. The focus of the discussion was no longer the role of *ineidad* and hygiene in the reversal of the mark of hereditary, originating with consanguinity, but the discussion gave greater emphasis than his text of 1869 to evaluating two opposing theses: that consanguinity generates a hereditary pathology or is an agent that promotes the appearance of a pathology present in family ancestors. Citations, data and conclusions of Boudin, Mitchell and Voisin were repeated in this context. Only this issue was dwelled upon, specifically concerning new evidence that reinforces the idea that not once could consanguinity be blamed for the case of an individual with mental retardation and that, to the contrary, consanguinity as a tool to conserve the races was so useful, breeders advised that "the better formed races are those which are more pure; the purer races have less illness, less problems or congenital defects and greater longevity than the mixed races" (Hidalgo y Carpio, Ruiz y Sandoval, 1877, p.66). Voisin`s opinion that consanguine unions were superior than a mixture of families was emphasized by Hidalgo y Carpio and Ruiz y Sandoval, and they quoted his opinions about the benign nature of the consanguine union: "I am very far from believing that one finds a state of perfect health among relatives, and thus avoid the bad influence of morbid consanguinity. I recognize that in practice, consanguine unions have certain inconveniences; but if we can concede this to the opponents of these marriages, the principal issue is no less certain in the case of perfectly established, healthy consanguinity " (p.66).

In what apparently appears to be tipping the scale toward the hypothesis that consanguine marriages could be benign, Hidalgo y Carpio and Ruiz y Sandoval (1877) increased the references that reinforce this. From Bourgeois, they cited an anecdote based on the genealogy of his own family, which originated from a consanguine union and in which there was nothing but perfect health among the offspring (p.66). In the same anecdotal tone, they referred to the case of the slave trader De Souza (Gallard, 1869) whose vast and isolated offspring in the kingdom of Dahomey carried out the most monstrous incest without any of these unions resulting in any case individuals affected by the pathologies attributed to consanguinity (Hidalgo y Carpio, Ruiz y Sandoval, 1877, p.67).

Hidalgo y Carpio and Ruiz y Sandoval (1877), nevertheless, conclude that there were observations and data that sustained both the morbid as well as the benign nature of unions between relatives and that left them without knowing "if we should recognize a pernicious influence from consanguine unions, or completely ignore the question of consanguinity from the point of view of hygiene and legal medicine". Finally, they conclude that the quantity of proofs support to the "enemies of consanguinity" and as a consequence affirm "that it appears more rational unitl now consider this question undecided and in practice considers that consanguine unions imply a noxious force on the health of the offspring" (p.68).

For Hidalgo y Carpio and Ruiz y Sandoval (1877), the uncertainty about the question stimulated hygienic or legal action. That is to say, by accepting the thesis of the morbid nature of the consanguine union together with the thesis that the union only favors the apparition of pathologies in the offspring that are carried by the parents, they conclude

by recommending a certain principle of prudence, which was not compatible with the regulation proposed by the jurists in the Civil Code promulgated in 1871:

> For the same reason it appears to us to be prudent to continue to see consanguine unions as dangerous, and to spread this idea among families, to protect them from infinite hardship; given that the law - without knowing why - has come to contradict the [canonic] tradition and to authorize marriage between relatives as close as first cousins, and uncles and nieces; without the legislator warning that two bloods impregnated with the same morbid germ, yield diseased offspring with greater certainty and intensity (p.68-69).

Hidalgo y Carpio's position, with all of its purpose to influence realms such as the legal field, was temperate in contrast with those that were equally based on a very basic discussion of the innocuous or morbid nature of unions between relatives, but arrived to the idea about necessity of medical judgment about them. The argument that would permit taking this route was organized after presenting two theses about consanguinity: Does it involve a *de novo* source of hereditary, constitutional diseases? (the hard line), or is it a phenomenon only involved, in some way, in favoring the inheritance of the pathologies? (the soft line). The inclination was to the second, together with the nihilist view of the pathological inheritance (inheritable diseases are irremediably incurable), which would allow establishing the need to prohibit forbid unions of morbid predispositions, whether inheritable or constitutional. The result of the argument was immediate: a doctor, as one with the knowledge of the issue of hereditary afflictions, must express an opinion about potential marriage ties.

Consanguine Matrimony and Prevention of Marriage

Should consanguine unions be forbidden? Should they be allowed with or without restrictions? These were the basic questions doctors discussed, and the source of data and evidence for each of the positions came from various fields: from the experience of horticulture and zoology, from direct work in human communities with the cultural habit of consanguine reproduction and from reports of the most important authors who wrote about the issue.

One of the most interesting cases is the thesis defended by Ruiz y Sandoval, years after publishing the *Compendio* along with Hidalgo y Carpio (1881), when Ruiz y Sandoval was seeking the position of adjunct professor of legal medicine. He made use of experiments conducted by animal breeders to support the acceptance of certain types of consanguine marriages, prohibit others and indicated the role of the doctor in these and in their legal regulation.

Based on zoological experiments with the generation of new races, their improvement and the role of atavism in this phenomenon, Ruiz y Sandoval established a solid argument about reproduction between relatives which, going beyond the theoretical realm, compared these experiments with human behavior and with the regulations about consanguine marriage established by the Constitution and the Civil Code of the time.

Ruiz y Sandoval (1881) invoked the importance of consanguine reproduction in getting new characteristics, new races and in their stabilization (p.10), simultaneously recognized

powerful influence of atavism in the regression of new characteristics to those of the lines that gave them origin. But before conceding atavism a role opposing that of inheritance, he conceived it as part of the first because of an element that entered in the author's consideration and which was key to one of his proposals about the power and prudence of the work of the doctor concerning hereditary illnesses: the conditions extrinsic to the animal and that their influence was the origin of atavism. In other words, the inheritance of characteristics that were imprinted, modified or touched in some way by these conditions in the organism (climate, habitats and nutrition, for example) were sufficient explanation for the regression to ancestral characteristics (p.10).

Concerning how the regression to the ancestral characteristics in the races obtained by consanguine reproduction is explained in virtue of external influence, Ruiz used the case of those obtained by domestication:

> If changing the animal's situation, it comes to lack the care which it had before and his entire way of living is changed, soon it will be seen that the characteristics achieved would be erased with the same speed with which they were formed. That is, that which is called abandoning the individual to his own forces, implies in general the appearance of actions contrary to those under the influence of which it had lived, causing them to regress: this indicates, not the tendency of atavism to undo what was formed by inheritance, no; but the inheritance itself, moving below the action of the influence of an opposite trend to those that it followed before (Ruiz y Sandoval, 1881, p.11-12).

Ruiz turned to atavism as an element that would permit him to sketch a first part of his preventive proposal: if external factors influenced the characteristics transmited by inheritance, they could be controlled for the prevention and cleansing of some inherited disturbances. From this perspective, it was an environmentalist proposal clearly aligned with the inheritance of acquired characteristics.

On the other hand, and specifically about prevention of pathological inheritance by means of marriage regulation, Ruiz y Sandoval affirmed that it was the behavior and the rule of succession among animals described by zoologists the source of the explanation of statistics about evils and virtues inherited in human beings. Moreover, it was a basis for judging that legal regulation of consanguine marriage was more or less congruent with the natural behavior of inheritance. In any case, he assured, it involved a regulation that was a bit restricted but adequate beyond all considerations. About the subject of the evils and virtues inheritable among relatives, he said that procreation among them could either very well perpetuate all the virtues, or very well perpetuate the defects of the parents to establish them within the families (agreeing with soft line in relation to consanguine marriage). In the best of the cases, legislation should permit -unlike mentioned prohibition- marriages among second degree relatives (siblings) when it was sought to perpetuate the health or the virtues of a family. Nevertheless, he added, medical knowledge about inheritable illnesses that could remain disguised for several generations was so limited, that from another perspective, permissiveness contemplated in the Civil Code that allowed marriages among third degree relatives (uncles and nieces) should be seen permissive, thus he concluded:

> Prudence would always advise that not counting on a precise knowledge of the health and other conditions of a given individual, a person should not be allowed to form a family with

> another person in which there may exist identical or similar hereditary tendencies; because while a marriage can enhance beneficial and already existing characteristics, there is imminent danger that could be perpetuated as a development disorder, or that an offspring becomes ill or debilitated(Ruiz y Sandoval, 1881, p.17).

On the other hand, Ruiz y Sandoval (1881) decided to use the zoological observations and the notion of external influence to discuss inheritability of mental illnesses (p.20) and indicated a series of preventive measures from both an environmental and deterministic perspective: "One cannot place in doubt that an *ad hoc* education, and the marriage of people of opposite tendencies and characteristics, can come to avoid such a dark legacy, and it would be desirable for our legislation to help with prohibitions, given that it is not possible to use regulations, to put in place a selection of results as beneficial as indisputable" (p.20-21).

At the time Ruiz y Sandoval wrote (1881), three years passed before the Civil Code of 1884 would establish the innovation in Mexican civil law of the right to divorce because of inheritable diseases (México, 1884).[4] Since the Civil Code of 1871, one of the impediments to marriage was constant and incurable madness. Nevertheless, given this situation, Ruiz y Sandoval (1881, p.21) observed in a critical tone in his work: "This is the only obstacle placed to the formation of a family where it is probable that a variety of mental illnesses could develop, leaving up to individual initiative the care to avoid the evil. Perhaps it would be prudent to be less liberal in this sense, because any obstacle placed, would provide useful results, since it is known, the weak understanding of our masses".

Other works sustain similar positions that circulate around a central issue: the regulation of consanguine matrimony, and matrimony in general, and the role of the doctor as expert about this regulation. This is the case of the 1883 thesis of Anselmo Ruiz y Moreno, a systematic field work in which he established a series of important notions based on data obtained in Mexican communities in which consanguine marriage was common.

Concerned with the morbid nature or not of procreation among relatives synthesized in the hard and soft line theses, Ruiz y Moreno dedicated himself to the study of afflictions such as deafness and speaking impediments, hydrocephaly and mental disturbances, using data from the Escuela de Sordomudos [School of Deaf-mutes], the Hospital de San Hipólito, the Hospital del Divino Salvador, the Escuela de Ciegos [School of the Blind] and prisons and communities in the states of México, Jalisco, Zacatecas and San Luis Potosí. After systematic study, Ruiz y Moreno (1883) denied the hard line thesis. For example, he affirmed: "In general I have deducted that for the cases of epilepsy, hysteria, Huntington disease and migraines, which are joined in my observations, that the hereditary and hygienic influence under its distinct phases, is the chief pathogenic cause of these neuroses, and that the influence of consanguinity of spouses is secondary and proportional to the first" (1883, p.21).

Ruiz y Moreno thus assured that the etiological agent of the hereditary illnesses was affliction in the constitution of the parents and not the consanguine union itself. The inheritance was pathological only in the case in which those involved were affected by a morbid germ, in such a way that it was enough for the parent to be affected by some inheritable illness to transmit it to their descendents even when there was no consanguine

relationship at all. In this way, the space for the doctor as censor and analyst of marriages appears to be established and went beyond decisions about the marriage of relatives. The behavior of inheritable illnesses allowed him to say that all marriages should be regulated, not only those between first, second or third degree relatives. The set of phenomenon that should concern medical knowledge was thus expanded.

Ruiz y Moreno (1883) effectively made a scientific and legal proposal in which he stipulated as a measure of prevention additions to the laws, due to the fact that all marriages present a potential danger of transmission of diseased elements:

> I would like to remind our legislators that two bloods, and particularly, two nervous systems impregnated with the same morbid germ, give with greater certainty and with greater intensity ill offspring, harming gravely humanity. Consequently, I ask those responsible (our legislators) that, for the national benefit, more requirements be placed on the power to celebrate the civil marriage contract […] (p.23).

From our perspective, the work of Ruiz y Moreno reached its peak when, after had organized elements in their proper places, he suggested, that the requirements for consanguine marriages include that doctors be called on to give opinions: "Marriage between relatives avoided by law can only occur when according to the judgment of a competent analyst (doctor) there would be no harm to them, nor would there be to their descendents (to their children)" (Ruiz y Moreno, 1883, p.23).

In a similar way, and even when they appear to be works about inheritance in general, the studies of José Andrés Villareal (1899) at the end of the 19th century culminated in considerations about morbid inheritance in particular and that consanguine marriages should be considered with a basis on the laws in this field. This extensive work dealt with the most theoretical considerations and the application of knowledge to the realm of legal medicine and more specifically to consanguine marriages. After an extensive first part in which he analyzed a series of issues about inheritance in general, he took up the study of pathological inheritance and of consanguine marriage. Like Ruiz y Moreno, he concluded in a particular opinion about these marriages (the soft line) and as such reached a similar preventive proposal. Thus, he broke with the understanding of the *de novo* pathological nature of marriages among blood relatives and accepted that there is no reason that these marriages *per se a*re the cause of all the evils attributed to them, and in fact, as animal breeders have found, consanguine marriages of diseased elements produce pathological results, but with healthy animals, they can be practiced safely, within certain limits.

Based on this, Villareal (1899) only needed a simple twist to cite from Regnault the measures that appeared to him to be prudent before going ahead with consanguine marriages:

> 1° A doctor should be called to give his opinion about a consanguine marriage and he should conduct a careful exam of the two spouses and investigate the health of their families.
>
> 2° The doctor should investigate if the spouses were raised in the same environment. An identical environment could create in the father and the mother the same morbid dispositions and there is a much greater probability that they be manifest in the children.

> 3° A favorable opinion should not be given to a consanguine marriage, except when the families are without problems and when the spouses were not raised under the same roof; except for these conditions, warn the parents of the possibility of a poor result (p.125-126).

Thus, the theoretical discussion led to a precise goal: the recognition of the doctor as the professional who should take, from discussion to practice, the control of inheritable disease and of all the natural and or social processes that their nature implies. As Rodríguez y Rivera had been writing since 1875 about the issue of prevention of inheritable disease, with a clear image of the doctor as a censor of habits, norms and forms of reproduction:

To impede the transmission of the hereditary diathesis to descendents, to improve the way of being a family and even of societies, peoples and races, to be able to neutralize and destroy morbid germs, lacking other means, we have *the word authorized by science*, which not only advises us, but *orders us to raise our voice* against all the inconvenient unions and proclaim the usefulness of the crossings which are those which multiply and improve all species (Rodríguez y Rivera, 1875, p.38; italics mine).

This same combative tone appeared in the text that P. Parra published in 1895, in a detailed study about if the carnal union between relatives could on its own be of a pathological nature. It began and ended arguing for the need for medical evaluation of the issue, and of consanguine marriage:

Consanguine marriage has appeared in the civil legislation of modern peoples as an impediment to marriage and the authors of pathology texts have attributed to it a thousand inconveniences, and accused it of a thousand damages… . It is thus essential that a doctor make an effort to discern the real influence of marriage of similar on the offspring, so that he can perform the dual and important role that is normally expected of him (Parra, 1895, p.46-47).

After this emphasis on the dual objective -the doctor who knows, the doctor who gives his opinion to society - Parra (1895) presented his study plan: a historical and statistical review was the form with which he discussed the pathological nature of consanguine marriage to conclude that: "there is no proof for or against…the innocuousness or the danger of consanguine marriage…" (p.53). In such a way that led to statistical study:

> It is quite certain, in issues of public hygiene and of etiology, that it is necessary to turn to the facts, count them and order them like a good statistician. Only in this way can it be determined if in a large number of cases, large enough to eliminate randomness, that having antecedents of consanguine marriage would have as a consequence: signs of degeneration, *agency*, or of more or less grave illness in the offspring (p. 53).

Thus, even though there were no statistical proofs in Mexico, Parra utilized data from various parts of the world. The problems caused by consanguine marriage were, he said, citing Rilliet, infertility, retardation or imperfection in conception, monstrous offspring, with imperfect moral and physical characteristics, nervous system diseases, with scrofula diatheses, which die in the first years of life and which are weaker than their congeners. Parra dedicated himself, based on these findings, to a statistical evaluation of whether the products of consanguine matrimony presented these characteristics in a significant form.

After reviewing a series of observations, Parra (1895, p.55) said of the infertile unions: "These observations and others that could be mentioned clearly prove that consanguine

marriages do not create any predisposition to sterility". Concerning other afflictions he said something similar:

> "Why cite these facts? All those that are registered today by science in its annals and which are as numerous as they are varied, argue in this direction…consanguine marriages, *per se*, are neither good nor evil, they do nothing more than make hereditary tendencies more robust; if the progenitors are sound, the offspring will be sound: if to the contrary, the spouses are ill, cacochymic and of weak vitality, worse will be the fruit of these deplorable unions" (p.57).

As in other studies, Parra accepted the soft line thesis towards consanguine union and like other authors, he emphasized the need for medical judgment of marriage. That is, the degrees of separation between the relatives to be married are not in and of themselves criteria for condemning or permitting marriage (as they were for civil law). The criteria that should be used for evaluating and recommending a union are familiar antecedents and traits, even in the case of a union between siblings, when the family is privileged of virtuous traits or better to prohibit it to the sixth degree of civil calculation when there is suspicion of pathological familiar antecedents; in this way, the judgment of the doctor became discretional and for this reason indispensable to each particular case.

This was an interesting feature of medical opinion about the issue. The assessments about consanguine unions were no longer totalitarian, as those from the religious and legal discourse. That is, instead of validating a system of prohibitions against consanguine matrimony that were universal and inflexible, the doctors proposed the possibility of making discretional judgment about each couple to, depending on the case, recommend the marriage between siblings, in the case of a family that carried a virtuous constitution, or impede marriages even when it involved relatives separated by various degrees of distance or those not related by blood, in the case of a family that carried a morbid constitution.

The configuration of the medical posture and the room for discretion in judgment about the marriages was the result of determinations that were based on factors different from those focused on by the legal and religious discourses. The union of a son with his mother, of a sister with her brother, was no longer evaluated as offenses committed against God or a certain natural order. The medical thinking argued that these types of unions, when evaluated "objectively" in the light of science, offend or even contradict another type of natural order ignored by the adherents to the religious canon and the jurists. The doctors placed their attention, more than on the aberration that a union between siblings was assumed to be, on the characteristics of the lineage of a family, on the afflictions or virtues common to a group of related individuals. Each case was thus unique and the offense to the order of nature and society was not evaluated in virtue of a general judgment but in virtue of the characteristics of each particular case, which in other words assured a space and a place for the doctor (which would have been ideal if it had been written in the letter of the law). Thus, the establishment of theory, the establishment of facts about consanguine marriages, was motivated by a political goal in the broad sense, by the taking of positions, from a privileged position, in a movement that at the time was expected to be long lasting, in a Mexico that was moving towards progress: to make clean water spring from the rocks.

Conclusions

In the second half of the 19th century in Mexico, from the perspective of the medical field, and particularly legal medicine, arguments were established to analyze consanguine marriage in order to evaluate the regulations about it found in the recently constituted modern Mexican Civil Code . On the base of these arguments was pathological inheritance and the phenomenon of inheritance in general, studied both in families and in other sources of data such as the breeding of animals and plants. The discussions about pathological inheritance and consanguinity could be seen as a controversy between two perspectives: one that sustained that consanguine marriages generate *de novo* constitutional, inheritable afflictions in the offspring (the hard line) and the other that sustained that these types of unions only favor the pathological manifestation of constitutions already present in the ancestors (the soft line). The decantation, which warned in direction of a novel and soft thesis, to affirm that the union of two damaged constitutions (whether blood relatives or not) increased only the risk that the offspring would suffer pathological consequences by means of inheritance (or in the opposite case, that the union of two privileged or virtuous constitutions would increase the possibility of transmission of these virtues to the offspring). This led several physicians to warn of the need for compound judgments in which a doctor should be called on to give his opinion. Therefore, some authors argued for the need to modify the legislation about consanguine marriage. Thus, I affirm, that by raising the discussion of pathological inheritance, or that of heredity itself, doctors were able to assign new meanings to the consanguine union to such a degree that they organized a series of rhetorical tools to fight for the control of this type of union and perhaps pave the road for the control of marriage in general, an objective that they did not quite achieve in this epoch, despite this effort.

Thus, my intention is to tell an untold story and in a way that raises a unique historical and philosophical perspective on the use or construction of medical discourse. I intend to sustain a basic idea about knowledge and the realm of its application, or more precisely, about the inexistence of the old fields referred to in the philosophy and history of science: the internal and the external. In this sense, I think that this study does not involve a finished knowledge that is ready to be applied, but that actually, the administration of the medical discourse is a continuum between a natural substrate and another final extreme that is constituted by its final applications. In fact I present the case in which the application of the scientific discourse to certain ends implies a specific plan, the performance (a plan for particular ends). This is achieved by a fortunate coincidence of a theoretical and methodological body adjusted to the ends, if not to a series of continuous actions that link nature and the behavior of phenomenon, to the applied ends and to the discursive and rhetorical use of knowledge. This link constituted by the management of knowledge is solidified in the broader action of the agents who seek to establish it. Thus, given the history, some doctors sought to manage certain ends due to precepts of distinct character, through the precise design and management of the tools that they had at hand. The control of consanguine marriage was the ultimate goal and to achieve it several conceptual and clinical tools were used, which adapted a discourse about prevention and which did

not have immediate successful results, but which spoke of the need for the medical community to earn a place in a Nation that was being consolidated and managing its upheavals and turmoil. This is thus one more story, which sustains a certain point of view similar to that of Anz: that the strategies used to establish social norms and values are intertwined in polemical debates linked to medical knowledge. (Anz, 2006).

NOTES

[1] Actually, the quote from Balzac is found in the context of a less dramatic humor, and with a sense of humor mentions the role of the doctor in marriage and as an ally of wives who do not desire their husbands.

[2] While there are two types of impediments to marriage: nullifying and prohibitory. In the first case, the violation of the prohibition produces an annulment or the inexistence of the marriage. When it involves an impedimental impedient, the violation of the prohibition does not invalidate the marriage, but produces its illicitness.

[3] The investigation about the route that led to the instauration of the Prenuptial Medical Certificate as a requisite in civil law is treated in a longer work. See González (2007).

[4] Causes for divorce include: "A chronic and incurable illness which is also contagious or hereditary, previous to the celebration of matrimony, and of which the other spouse had no knowledge" (*articulo* 227*, fracción* XI).

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