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Achieving the desirable nation : abortion and antenatal testing in Colombia : the case of amniocentesis

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Chapter 4

Amniocentesis in historical context: the Colombian experience

Technologies belong to the human world in a modality other than that of instrumentality, efficiency or materiality... It is pointless to want to define some entities and some situations as technological in opposition to others called scientific or moral, political or economic.

Latour 2002: 248

In the previous chapters I have demonstrated the multiplicity (Mol 2002), plasticity and ambiguity of the category of ‘conditions that make life unviable’³⁷ or ‘incompatibilities with life’, for which selective abortion was de-penalised in Colombia. I have considered how it extended beyond conditions that threaten life in biological terms, to include those that pose a menace to social life and to particular lifestyles. I have also shown how antenatal diagnostic technologies play a central role in the case of abortion, when the foetus is diagnosed with a developmental difference. It is through the use, interpretation, and mobilisation of such technologies that foetuses with ‘conditions incompatible with life’ are spotted, diagnosed, constructed, and made real.

Through the voices of lawyers, judges, bio-ethicists, geneticists, obstetricians, nurses, and lay people, it was clear that aborting foetuses with ‘conditions incompatible with life’ is (and has been) an accepted practice, and that abortion de-penalisation was considered by many actors within these groups as a necessary move. It was also possible to elucidate that the category ‘incompatibilities with life’ has as many meanings and understandings as there are actors defining, making use of, and classifying it.

³⁷ From hereafter I will use ‘conditions that make life unviable’, ‘conditions incompatible with life’ and ‘incompatibilities with life’ interchangeably. Although each category may suppose ontological differences, the way they are used in relation to selective abortion practice and de-penalisation makes it possible to lump the three concepts together. Furthermore, the fact that it is possible to lump them together precisely highlights the ambiguous and problematic nature of the concepts, and of the attempt to pinpoint and pigeonhole medical foetal conditions under such terms.

Abortion de-penalisation is interpreted as a necessity to 'move forwards' (i.e. modernise and develop) and meet international standards regarding reproductive rights, basically for three reasons. Firstly, according to the lawsuit, Sentence (C-355/06), and accounts of public opinion, women should be able to choose the kind of children they want to rear so that the pregnancy and delivery of a child with a given disability or condition does not become an imposition but is a free choice. Secondly, for the abovementioned groups and actors, to live with a disability is portrayed as a fate one should be spared, since such a life is full of hardships, not only for the person suffering the condition, but for the society and the family in which such a person is born into. Finally, as explained by bio-ethicists and some medical doctors, abortion in cases of foetal 'conditions incompatible with life' becomes an issue of social justice, since scarce resources should be better spent on individuals with a more promising forecast (i.e. expectation of life). It is worth remembering that the decision as to what constitutes a condition that makes life unviable is dependent upon the obstetrician's viewpoint; a situation that results in a great variation in interpretations³⁸.

It has become clear throughout the previous chapters that amniocentesis, in combination with other antenatal diagnostic technologies, played an important role in the debate and de-penalisation of abortion in cases of foetal malformation. It has also become clear that such technologies play an important role in today's practice of selective abortion of fetuses with 'conditions incompatible with life'.

However strong and valid the three abovementioned arguments may be for supporting abortion de-penalisation in today's world, a second and more careful appraisal is needed in order to understand where this generalised discourse, that depicts and constructs people with disabilities as inherently burdensome, comes from; how antenatal diagnostic technologies, especially amniocentesis, acquired the authority and roles that they have today; and how and why reproduction – not just basic reproduction, but the reproduction of healthy individuals and citizens – became a central issue for policymakers, politicians, obstetricians, geneticists, and lay people in the history of Colombia.

³⁸ In the following chapter I address how severe conditions are constructed and interpreted by obstetricians and specialists in maternal-foetal medicine.

In this chapter I explore the history of amniocentesis in Colombia, as a technology that has had different usages throughout history, but which lately has become increasingly relevant due to its capability for diagnosing chromosomal and genetic conditions. Nowadays it has become a technology that enables prospective parents to choose the kind of children they want to rear, although its first interests and priorities were rather different.

My argument is twofold. On the one hand I argue that the positioning of amniocentesis, along with other antenatal diagnostic technologies, is a response to and a product of the development of obstetrics – as a discipline for medicalising and thus monitoring and controlling reproduction – in combination with the ideas and actions of public health – a discipline that evolved from early hygienist ideals for achieving a desirable nation state body that would allow the country to progress. On the other hand, the premises of both obstetrics and what is today called public health were themselves re-shaped by the use of, role, and attached functions that amniocentesis has had and that it enabled. By contextualising and looking at the interaction of such elements, we can understand the role that amniocentesis plays in obstetrics today.

I develop my argument as follows. Firstly, I address the history of amniocentesis in Colombia, linking its deployment in the country with what is known of the development and use of the technology in different locations. From that account the relationship between amniocentesis and eugenics will come to the surface. In the second section I discuss eugenics discourses and practices, and the contextual particularities that such a movement had in Latin America. I also discuss the possible links between eugenics, obstetrics, and public health as it occurred in Colombia. In order to make such a link possible, I look into the history of the hygienist movement of the early and mid 1900s in Colombia, which later developed into public health. On the basis of that history we can try to uncover the possible sources of the social understandings of which particular children are considered undesirable (in this case, people with disabilities), that nourish today's understanding of those groups of people and which inform the practice and de-penalisation of selective abortion of fetuses with a 'condition incompatible with life'. In short, I will unearth historical sources for the different components that contribute to current interpretations of the ambiguous category of 'conditions that make life unviable'.

I conclude that the history of the search for a modern and developed country helps to better understand why and how amniocentesis gained the central role it has today in reproductive services. Further, I show why abortion in cases of foetal genetic, chromosomal, or morphological variations has been deemed acceptable from the moment in which amniocentesis offered the possibility to test in utero for chromosomal or genetic variations.

Amniocentesis: 'trespassing the sacred tabernacle'³⁹

With the voice recorder turned off, following the wishes of my interviewee, I had two conversations with Gynaeco-obstetrician Dr Fernando Sánchez-Torres, a prominent physician who is well known and respected in the world of obstetrics. Having studied medicine and later the specialisation of obstetrics and gynaecology at the National University of Colombia, Bogotá, Sánchez-Torres has a remarkable academic and medical career.

His numerous publications regarding the history of obstetrics as a discipline and its subsequent development in Colombia (Sánchez-Torres 1991, 1993), and his central role in the National Academy of Medicine, the Colombian Institute of Bioethics Studies, and also in the Colombian Society of the History of Medicine – the latter two of which he is a founding member – make Sánchez-Torres a pivotal figure to the world of obstetrics, both nationally and internationally. This is further shown in his many memberships, as for instance being an Emeritus member of the Colombian Society of Gynaecology and Obstetrics, and his current role as president of the foundation 'Right to die with dignity'. In addition, Dr Sánchez-Torres counts a number of national and international recognitions throughout his professional life. But the matter that brought Dr Sánchez-Torres and I together is that he was the first obstetrician to publish research results and report about amniocentesis in Colombia (Sánchez-Torres 1972, 1973, 1988, 1991).

To reconstruct the history of amniocentesis in Colombia was not easy; nor was it easy to meet with Dr Sánchez-Torres. This was not because he was a person difficult to arrange a

³⁹ Fernando Sánchez-Torres, personal communication 2009.

meeting with; on the contrary, once I tracked him down as the pioneer (a term he himself uses) for performing amniocenteses in Colombia, he did not hesitate to set up an appointment with me. Later, during a second phase of data gathering, I contacted him again and his reaction was the same: a quick answer for fixing an interview. The difficulty I encountered in finding Dr Sánchez-Torres lay in the fact that only two participants in this research, amongst all the interviewed geneticists and obstetricians, could think of and name possible pioneers of amniocentesis in the country. One such physician was the obstetrician Dr Isaza, of the Department of Maternal and Foetal Care in which the core ethnography took place. The second was geneticist Dr Giraldo, who was able to provide information about a student of Sánchez-Torres – Dr William Onatra – who worked and published with Sánchez-Torres (Sánchez-Torres & Onatra 1973).

Surprisingly, for most of the specialists in maternal-foetal medicine with whom I talked during fieldwork, the history and origins of amniocentesis were not known and did not seem relevant for their practice. Even more striking was the fact that two specialists (who did not work at the Department) reported being the first to perform amniocentesis in Colombia around 1987, some 20 years after the existence of the procedure in the country.

As mentioned before, I was able to meet Dr Sánchez-Torres, a central figure in the use and development of amniocentesis in Colombia, through Dr Isaza, one of the obstetricians following a fellowship in maternal-foetal medicine at the Department. Once, whilst talking with Dr Isaza, I expressed my eagerness and difficulties in finding the pioneer of amniocentesis in the country. At that time, Isaza reported that he was not sure about the origins of the procedure, but offered to lend me his books on the history of obstetrics in Colombia in the hope that they would shed some light on the matter. Two days later, Dr Isaza arrived at the Department with a beige bag containing 3 books: *The History of Obstetrics in Colombia*⁴⁰; *Science and Human Reproduction*⁴¹; and the last one entitled *Clinical Embryology*⁴². 'This one [the latter] is for you to better understand when we [specialists and fellows] talk about cases. I recommend you to photocopy Chapter 8 [congenital anomalies]. The other two books will be helpful for looking at the history of amniocentesis', said Dr Isaza when handing me the books. 'I read a

⁴⁰ Sánchez-Torres 1993. *Historia de la obstetricia en Colombia*. Giro Editores: Bogotá.

⁴¹ Sánchez-Torres 1991. *Ciencia y reproducción humana*. Empresa editorial Universidad Nacional de Colombia: Bogotá.

⁴² Moore & Persaud 2006. *Embriología Clínica*. Elsevier: Madrid.

bit of them again and look: here [in 'The History of Obstetrics in Colombia'] he [Sánchez-Torres] is making reference to an article on amniocentesis written by himself in 1972. I think that it is the first publication on the subject here in the country'. Dr Isaza also told me that Sánchez-Torres had been his teacher in medical school, and that he, Isaza, was pretty sure that if I contacted the National Academy of Medicine they would provide information about how to locate Sánchez-Torres.

Instead of trying that route, I preferred to look up Dr Sánchez-Torres on the Internet, and I found out that he is currently a member of the Board of Directors of the Central University in Bogotá. I telephoned the number that appeared on the University's website, and after introducing myself to the secretary I was put through to Dr Sánchez-Torres. Isaza was right: the 1972 article was the first publication about amniocentesis performed by a Colombian obstetrician in the country. I asked Sánchez-Torres if we could meet for an interview about his experience with amniocentesis and he proposed a meeting two days later, at 17.30 at the library of the National Academy of Medicine.

Dr Sánchez-Torres is a grey haired elderly man, who has the distance and demeanour of physicians of his generation, but when given the opportunity shares a smile. We had two interviews, with two years between them. The first one was rather short, about 30 minutes, because he had a meeting scheduled right afterwards. The second, which took place at his house, was longer, more pleasant, and more comfortable. Perhaps it was the absence of the pressure of an upcoming meeting, the comfort of an old family house, and the fact that we had met before, that contributed to a more articulated interview, which was as rich as the first.

During the first brief encounter, Dr Sánchez-Torres explained that:

The first amniocenteses were done around 1965. We did them in the Maternal- Infant Institute [in Bogotá]. We performed lots of amniocenteses during the first years, and until the law 100 was enacted⁴³ ... I was interested in getting acquainted with the uterine environment during

⁴³ Ley 100 de 1993; by which the health care system changed into an 'Integral Social Security System', set to unify and coordinate the Social Security System and the enterprises that provide health care (see Congreso de la República de Colombia Ley 100 de 1993. Article 6).

pregnancy ... We also did amniocentesis when there was an excess of polihydramnios; so when it was needed to reduce the amount of amniotic fluid. We also did amniocentesis for studying glucose concentrations in the amniotic fluid, for research, as I reported in these articles [he points to some articles he was holding]; I explained all about it in there ... And we also did amniocentesis for detecting chromosomal errors, and the sex of the foetus. But other usages that amniocentesis had, that we used amniocentesis for, were to assess foetal lung maturity, and in cases of prolonged gestation. In cases of a dead foetus we used it for inducing labour ... Sometimes, amniocentesis was also used for terminating pregnancies, in cases in which the pregnancy needed to be terminated. I mean, amniocentesis had many indications for its use. As I say in this article [of 1972], amniocentesis has therapeutic, diagnostic, prognostic, and research indications. You can make a copy of these articles so you can know about it (Interview 2007).

I was surprised to know that amniocentesis was first being performed in Colombia as early as 1965; my initial inquiries had referred to amniocentesis' first incursions in Colombia around the mid 1970s. The timing of the first appearance of amniocentesis made me wonder about two major issues: one related to the use of obstetric ultrasound which, due to its capability to render transparent the woman's uterus, serves as a guide when doing amniocentesis. The other question related to the use of amniocentesis for diagnosis of chromosomal variations. Given the early use of amniocentesis, these two technologies and types of knowledge were not yet available in the country. In answer to the first question, Dr Sánchez-Torres stated:

Yes, at the beginning we did not have [obstetric] ultrasound. That only arrived in Colombia in 1976, and not even to Bogotá but to Barranquilla [a city located in the north-western part of Colombia]. So we did supra-pubic amniocentesis. I mean, if it was an amniocentesis after the fifth month – so when you could palpate the foetus – the puncture was performed supra-pubic or on the sides. In the places where you knew that small parts of the foetus were [the head of the foetus was expected to be in the supra-pubic area]. If the pregnancy was less than five months – so you couldn't palpate the foetus yet – then the puncture was done in the middle line [línea media] (Interview 2007).

Despite Dr Sánchez-Torres' explanation, I wanted to dig more into the matter of the absence of ultrasound when introducing a needle in the uterine cavity of a pregnant woman; although, by that point, I already knew that amniocentesis had more than a hundred year history. Rapp describes how, when attempting 'to relieve harmful pressure on the foetus of a pregnant woman' (Rapp 2000: 28) by 'extracting amniotic fluid transabdominally through a hollow catheter' (Rapp 2000: 27), a German doctor had performed and described the first amniocentesis in 1882. Such a practice remained an experimental treatment for reducing an excess of amniotic fluid which threatened foetal development. From Dr Sánchez-Torres' experience, I realised the craft of those physicians who, in the absence of obstetric ultrasound, were eager to learn about and discover the functioning of the pregnant uterus in search of better care for their patients, and thus dared to 'trespass the sacred tabernacle that the uterus was' (Sánchez-Torres, Interview 2009). That is, in the urge to become acquainted with the process of pregnancy, Sánchez-Torres and colleagues dared to trespass the uterus, sealed until then, in search of information regarding the physical and chemical changes, processes, characteristics, and qualities of the pregnant human uterus and of the foetus. I asked Dr Sánchez-Torres what precautions he took for not injuring the foetus and or damaging the placenta. He explained:

It was more difficult, indeed, but you also had to be more careful. The foetus could be injured with the needle or there could be isoimmunisation due to the rupture of the placenta, amongst other complications. So you needed to be very careful. If you did the puncture gently and attentively you could feel when the needle passed through the abdominal cavity, the uterine wall and then the amniotic bag, and you could also feel when you hit the foetus, which, if you performed the puncture gently, as I said, was soft enough to not injure the foetus (Interview 2007).

As for the uses of amniocentesis for diagnosing chromosomal or genetic variation, in our first interview Dr Sánchez-Torres pointed out that:

At the beginning, when we started to do amniocentesis, genetics research had not been introduced to the country yet, so we could only do those at the end of the sixties (Interview 2007).

When we met again in 2009 he complemented his previous answer by adding that:

At the beginning we used to look at the amniotic fluid with a naked eye, to assess how the foetus and the placenta were doing. It was all about the clinical eye, that's forgotten now. But what we looked for – or why we did amniocenteses – was to be able to assess the interior of the uterus and to try and get closer to the development and well-being of the foetus... The liquid should be clear; if it is too yellowish it meant that the placenta is not doing well, or if it is with blood that means that the foetus is dead (Interview 2009).

Along with these major questions, I also wanted to know how amniocentesis made its way to become a recurrent practice in Colombia. To this Sánchez-Torres answered:

When I was a resident I never got to know about this procedure. But when I was a teacher, around the mid-sixties, we got to know more about amniocentesis through international scientific journals to which we had access here. In such [journals], other obstetricians reported about this procedure, which we found an incredible tool for finally being able to enter the pregnant uterus and study it and the foetus. So we started to experiment and to perform amniocenteses ... as I mentioned before, we used to only look at the appearance of the liquid; that alone already gave a lot of information to us (Interview 2009).

Given that Dr Sánchez-Torres reported hundreds of amniocenteses taking place from the mid-sixties until the early 1990s, I wondered about the specialists doing them:

We taught amniocentesis in medical school and it was shown to the students the relevance of this exam ... but from the onset of amniocentesis the specialists performing it have been very few, although many women want to have it, or should have an amniocentesis ... now even more so that there is new knowledge and indications for amniocentesis, for example the indications of malformed fetuses [chromosomal and genetic variations] (Interview 2007).

In relation to this latter point, and with regard to the practice of selective abortion and recent abortion de-penalisation, Sánchez-Torres reluctantly said:

... well, when genetic information and technology was developed here and amniocenteses were done to find chromosomal or genetic errors then yes, we knew that [some] women were aborting malformed fetuses, although we did not practice them ... I mean, I think it is good for women to abort if they know their foetus has a malformation and they don't want to have it (Interview 2007).

On that note we finished our first interview. Other senior physicians had arrived and were expecting Dr Sánchez-Torres in the meeting room. Before saying goodbye, the senior and gentle obstetrician handed me over three articles of his own and added:

Make copies of these, there I report about the different indications for amniocentesis. They will be useful for you. You can leave the originals with the receptionist (Interview 2007).

From the rich accounts of Dr Sánchez-Torres a number of relevant issues that needed further exploration came to the surface. First was the long history that amniocentesis has in Colombia. Second, the multiple and changing functions, usages, and roles that the exam has had since its early days back in 1965; and how to account for how far from many of those early functions, interests, and priorities amniocentesis stands today. Third, due to the lack of ultrasound technology, which meant no possibility for *looking into* the uterus, amniocenteses were performed blindly for almost a decade, thus carrying further risks for the foetus and the woman. Fourth, despite the risks carried by amniocentesis, Sánchez-Torres was keen on it for it provided crucial information about the uterus of a living pregnant woman, while it also enabled obstetricians to assess on the well-being of the pregnancy based on the quality and appearance of the amniotic fluid. And finally, Sánchez-Torres confirmed, as other participants of the research had confirmed before, that selective abortion after amniocentesis

positive results is as old as the possibility for testing *in utero* for chromosomal and genetic composition.

As expected, the written material provided by Sánchez-Torres turned out to be central. Moved by the novelty of a procedure that was rapidly being refined, and which Dr Sánchez-Torres deemed paramount for the practice of obstetrics, he decided to write an article in 1972 to inform colleagues about the technique of and indications for amniocentesis (Interview 2009). According to Sánchez-Torres (1972), by 1972 amniocentesis 'ha[d] acquired chief relevance not only as a procedure to clarify different aspects of the physiology of the intrauterine environment, but also for establishing foetal conditions or for treating some obstetric disorders' (1972: 371, my translation). Therefore, he considered that every obstetrician should be qualified to perform the exam. Sánchez-Torres continued, 'given that, amongst us, this is not a well known procedure, we consider [it] advisable and opportune to address the topic, in order to establish its indications, explain its technique, mention the possible complications that it can carry, and report on our experience' (1972: 371, my translation). Although 'initially amniocentesis or ovocentesis had as [its] fundamental aim to drain the excess of amniotic fluid ... and to induce labour when the foetus was dead or in cases in which it was considered necessary to interrupt the pregnancy' (1972: 371, my translation), by 1972 amniocentesis was recommended and used in even more cases. Such indications were therapeutic, diagnostic, prognostic, and for research.

As specified by Sánchez-Torres, therapeutic amniocentesis had three indications. Firstly, he expressed that 'with relative success' (1972: 371), amniocentesis had been used for doing foetal blood transfusion in cases of RH isoimmunisation⁴⁴. Secondly, in cases of polihydramnios, amniocentesis was (and still is) performed as the main treatment for reducing excess amniotic fluid. Finally, amniocentesis was performed for inducing labour or

⁴⁴ As defined by Medline Plus dictionary online 'Rh incompatibility is a condition that develops when a pregnant woman has Rh-negative blood and the baby in her womb has Rh-positive blood... In such cases, the mother's immune system treats the Rh-positive fetal cells as if they were a foreign substance and makes antibodies against the fetal blood cells. These anti-Rh antibodies may cross the placenta into the fetus, where they destroy the fetus's circulating red blood cells'. Online source: <http://www.nlm.nih.gov/medlineplus/ency/article/001600.htm>.

abortion given that 'the introduction of hypertonic solution in the amniotic area tends to produce uterine contractions' (1972: 371).

With regard to amniocentesis' diagnostic indications, Sánchez-Torres (1972, 1988) pointed out seven cases, as follows. 1) Diagnosing foetal death, as there takes place 'changes both macroscopic and microscopic in the amniotic fluid, when the foetus has died, [which] are easy to observe thanks to the amniocentesis' (1972: 371-372). 2) Diagnosing premature membrane rupture, because 'the trans-abdominal introduction of a colouring substance into the uterine cavity contributes to confirm ... membrane rupture' (1972: 372). 3) Hydatidiform moles can be diagnosed when a radiologic image of a 'honeycomb of bees is shown, after the introduction of contrast agents' (1972: 372) in the uterine cavity. 4) Foetal sex is possible to identify by studying chromosomes and Barr bodies in the cells contained in the amniotic fluid. 5) Sánchez-Torres (1972, 1988) explained how foetal maturity is possible to determine by the detailed study of the concentration of substances such as creatinine and bilirubin. 6) The diagnosis of 'congenital diseases' was addressed, for Sánchez-Torres pointed out that 'through the cultivation of foetal cells it is possible to perform the antenatal diagnosis of some genetic disorders such as Down syndrome, Pompe's disease and metachromatic leukodystrophy' (1972: 372). 7) Finally, he spoke of the possibility of locating the placenta, through the 'radiological visualisation of the amniotic cavity, with contrast agents, [which] facilitates the identification of the place in which the placenta is located' (1972: 372). However, by 1988 Sánchez-Torres underlines that this latter indication for amniocentesis 'has been relegated by the use of ultrasound' (1988: 52).

Amniocentesis had also a prognostic function, used for determining foetal lung maturity. By closely 'studying the phospholipids in the amniotic fluid ... by knowing their concentration, it is possible to predict the level of lung maturity, and thus to judge which foetuses will develop the respiratory difficulty syndrome or the disease of the hyaline membrane' (Sánchez-Torres 1972: 372). Similarly, 'the study of the concentrations of estriol is considered useful for knowing the functional status of the placenta, and thus the status of the foetus ... furthermore, the simple appearance of the amniotic fluid constitutes a great help when one wants to inquire about the status of the foetus in given pathologic circumstances, such as prolonged pregnancies' (Sánchez-Torres 1972: 372). In a later

publication in 1988, Sánchez-Torres added another prognostic qualification to amniocentesis: 'the quantification of the so called alpha fetoprotein orientates to the diagnosis of the open alterations of the neural tube ... [H]igh levels of this protein ... allow [us] to predict, in 90% of the cases, the presence of anencephaly and spina bifida' (Sánchez-Torres 1988: 52). Finally, in this seminal work on amniocentesis in Colombia, Sánchez-Torres addressed amniocentesis use for research as follows: 'amniocentesis has been and continues to be a procedure employed for investigating the characteristics of uterine contractions, and also the composition and volume of the amniotic fluid, in either normal or pathologic conditions' (1972: 373).

As for the technique of amniocentesis, Sánchez-Torres (1972) provides a detailed account of the ways in which the puncture should be done, stressing that 'although many have used the vaginal track for reaching the amniotic cavity, nowadays, that is only done via the trans-abdominal puncture, because it has been proven that the latter offers more safety, is easier, and carries less complications than the former' (1972: 373). He reports that the place for the puncture depends on the gestational age, as repeated by Sánchez-Torres in the interview. The woman should lie down on her back, legs stretched, with arms crossed over her chest. The abdominal wall needs to be entirely uncovered to allow for auscultation to locate the foetus. Once the foetus is located, the abdomen must be 'cleaned with water and soap and then disinfected with an antiseptic solution' (1972: 373). The area requires sterilisation in order to minimise infections. Sánchez-Torres (1972: 373) makes sure to mention that 'it is possible to feel when the needle hits the foetal body, which should not be injured if one proceeds gently'.

In the following chapter, it will be shown that the current technique for extracting amniotic fluid remains pretty much the same as that reported by Sánchez-Torres (1972, 1988). However, there are three major differences in today's practice: the foetus and the placenta are located via ultrasound; amniocentesis is no longer performed after the 18th week of pregnancy; and amniocentesis' interests and functions are, nowadays, pretty much limited to genetic and chromosomal assessment, for ruling out foetal infections, and for

extracting excess amniotic fluid. If there is a need for later foetal chromosomal examination, that is done via cordocentesis⁴⁵.

With regard to the possible complications, Sánchez-Torres (1972: 373) explains that:

[I]n 1000 amniocenteses, Freda⁴⁶ communicated not having observed maternal or foetal morbidity. However, there is agreement in that there are three risks when practising it: infection, direct foetal lesion, and foetalmaternal sensitisation. Infection, with no doubt, is the gravest complication ... it is present, mostly, after the intrauterine injection of a dextrose solution ... Foetal damage can be direct, that is, with the needle ... The laceration with [a] needle of the foetal-maternal placental barrier has been invoked as the cause of the initiation or worsening of the isoimmunisation ... it is evident that amniocentesis performed for obtaining amniotic liquid is inoffensive for the mother, but not when used for introducing substances in the ovular cavity. Besides the already mentioned infection, the injection of hypertonic saline solutions can cause lethal brain damage. Finally, the puncture of the vesicle or intestinal perforations are but remote possibilities if the necessary precautions, such as emptying the bladder and performing a careful abdominal palpation, have taken place.

Sánchez-Torres finishes the theoretical part of his publication with this last note on the *complications* of amniocentesis, in order to give room for reporting his experience with the exam in the Maternal-Infant Institute Concepción Villaveces de Acosta (Bogotá), in which, by 1972, 350 amniocenteses had taken place. Sánchez-Torres (1972: 375-376) explained that:

[B]esides the light pain that afflicted women at the very moment of the puncture, we did not observe any other ailment or complication imputable to the procedure, warning though, that we did not investigate if foetal-maternal transfusion took place in the 50 cases in which we presume that the placenta was lacerated. Three patients showed manifest arterial hypertension ... which bettered when [the women were] put in the lateral position ... One pregnant woman with a dead foetus, to whom a dextrose

⁴⁵ Cordocentesis is the technique of extracting foetal blood from the umbilical chord.

⁴⁶ Freda, J. 1966. Recent obstetrical advances in RH problems, ante partum management, amniocentesis, and experience with hysterectomy and surgery in utero. Bulletin New York Academy of Medicine 42: 475. Cited in Sánchez-Torres 1972.

solution was injected with the intention of provoking the delivery, showed at the childbed septicaemia due to staphylococcus albus. [She] died due to this cause.

There are a number of elements that make this article of great relevance for understanding amniocentesis' history in Colombia. From the previous accounts it is visible how such a technique, which was to some extent rather rudimentary at its onset, grew so inexorably in terms of use and sophistication to become the technology we know today. Sánchez-Torres' accounts of the early practice show how there was still hesitation about performing amniocentesis – visible in the use of expressions such as *relative success, tends to induce contractions, easy to observe*. It is thus possible to say that at this early stage the technique was somewhat volatile and *difficult to master*: if the performing obstetrician was *careful and cautious* enough, the possibilities of foetal injury, placental laceration, intestinal perforation, and vesicle puncture could be *prevented*. Apparently, the maternal death as a possible result of the injection of hypertonic solutions could not be controlled as there was no further elaboration on how such a *complication* could be handled – which added not only further risks, but also required more ability and care from the practicing obstetrician.

The combination of amniocentesis' versatility as a tool for treatment, diagnosis, prognosis, and research, coupled with the welcome it received within scientific and scholarly circles, allowed the technology to gain a place in obstetrics in Colombia. The scientific rhetoric (Restrepo Forero & Becerra Ardua 1995) used in Dr Sánchez-Torres' publications, and particularly the neutral tone (Sánchez-Torres 1972, 1988; Sánchez-Torres & Onatra 1973), visibly positions the technology and its practitioners as part of a *solid, renowned, evenly developed, coherent, neutral, and very importantly, international* (mostly Anglo-Saxon/European, with the inclusion of a couple of neighbouring countries) scientific community, who were publishing amniocentesis related experiences at the same time as these scholars were doing it. It only requires a glance at Sánchez-Torres' (1972) list of references to recognise that most of the cited bibliography is only a few years older than his publication, with very few exceptions. Such a fact should come as no surprise when one looks closely at the international development of the technique.

The story of Dr Sánchez-Torres resonates with statements in the former chapter about how new roles for obstetrics, either related to technological innovations or due to the de-penalisation of abortion, enable obstetricians to “do something” with their knowledge and their profession.

Amniocentesis in the international arena

During the mid-fifties amniocentesis use was rather sporadic and rare. It was a practice for which the safety as well as its potential still had to be proven. Reported malformations in mice after an amniocentesis had been performed led many to question the ethics behind performing such an exam on healthy pregnant human beings. Further, it was questioned whether women participating in the trials were aware of such dangers (Morowitz 1957: 465). Responses to such worries were backed up with *scientific evidence* of amniocentesis’ harmlessness to both the woman and foetus in 25 *normal* pregnant human procedures. The safety and ease of performing the exam were emphasised (Parrish et al. 1957a: 465 (in response to Morowitz); Parrish et al. 1957b).

By the 1950s, amniocentesis was mainly used to test for maternal-foetal blood group incompatibility and for determining the severity of RH disease (Rapp 2000: 28). Soon though, after the discovery of the sex chromatin, amniocentesis was used to determine foetal sex, mainly for women already mothering a son with haemophilia: as ‘it was determined to be chromosomally male, then they ran 50 percent risk of having another son affected by the disease’ (Rapp 2000: 28). Given this new possibility, the Danish were the first to report an abortion after the determination of male foetal sex for a carrier of haemophilia, in 1960. Later, in 1967, Jacobson & Barter published their article on ‘intrauterine management of genetic defects’, which provides accounts of their experience of doing a karyotype from foetal cells floating in the amniotic fluid. The literature of the late 1960s and early 1970s addressed amniocentesis as a medical examination, and was largely focused on the test’s function as an index for foetal genetic information, which was known ‘early enough to be an important consideration in *gestational management*’ (DeMars et al. 1969: 1304, emphasis added).

Thus, by the time that amniocentesis was given a place in the scientific discourse of obstetrics in Colombia (Sánchez-Torres 1972), the technique had already earned a place in the international arena which was increasingly medicalising pregnancy, and amongst a scientific community that, in taking care of pregnancy, brought about such a medicalisation.

Nonetheless, the existence of a scientific research field and scientific publications does not necessarily lead to a medical practice having the secure position that amniocentesis enjoys in Colombia and elsewhere. In this respect, what I see as contributing to amniocentesis' position as an accepted and (in the view of some) necessary technology has to do with amniocentesis' versatile nature, and the key role it has played for obstetrics.

If we bring Sánchez-Torres' article back for a moment and remember amniocentesis' different indications, it is possible to point out that amniocentesis had a central role in the development of obstetric knowledge with regard to the uterine environment during pregnancy. The puncture of the uterus, the extraction of amniotic fluid, or the injection of substances, represented the way in which obstetricians could not only gain knowledge of, but also diagnose and treat, 'pathologic' pregnancies; in other words, to successfully continue to medicalise pregnancy and to set standards of *normality* (c.f. Hiddinga & Blume 1992). Amniocentesis enabled obstetricians to explore inside a pregnant woman, to assess foetal status, to diagnose and prognosticate foetal conditions, and to treat what were defined as pathologic pregnancies. Amniocentesis provided obstetricians with information and possibilities that before were unreachable to them; it allowed obstetricians to 'better watch over the foetus and the pregnant woman, in a way that could help to guarantee a good pregnancy outcome' (Sánchez-Torres, Interview 2009). In other words, it could extend obstetrics' jurisdiction over all pregnancies.

Of the numerous possible indications for amniocentesis reported by Dr Sánchez-Torres (1972, 1988), only very few remain in use. The development of obstetric ultrasound by Ian Donald in 1956 (Blume 1992; Sánchez-Torres 1993) and its further refinements took over most of amniocentesis' interests, priorities, and possibilities. Determining foetal sex, foetal maturity, and foetal death, the location of the placenta, the diagnosis of hydatidiform moles, and membrane rupture, are nowadays functions performed by obstetric ultrasound. Other indications such as inducing abortion or delivery and the need for assessing foetal

lung maturity were taken over by developments in other technologies such as pharmaceuticals and neonatal intensive care units (Dr Rincón, specialist on maternal-foetal medicine, personal communication 2007).

In such a state of affairs, amniocentesis was displaced by other technological and knowledge innovations, but instead of losing range or importance in contemporary obstetrics, amniocentesis gained centrality. Whilst the development of obstetric ultrasound took over most of amniocentesis' possibilities and interests, the fact that the uterus was rendered transparent represented an enormous advantage for obstetricians in practicing amniocentesis, for the risks were dramatically reduced. Further, the use of ultrasound helped to narrow down the indications of amniocentesis, making it a much more precise and specialised technique (Sánchez-Torres, Interview 2009).

In addition, the indications for which amniocentesis is performed today – namely assessing somewhat early in pregnancy foetal chromosomal and genetic composition, detecting foetal infections, and reducing excess amniotic fluid – are so far only possible through the use of this particular technology. Out of these three possibilities, the one that gives amniocentesis its leading role is, undoubtedly, the possibility to diagnose chromosomal or genetic conditions.

As pointed out by some authors (Kevles 1995; Rapp 2000), with Jérôme Lejeune's discovery of trisomy-21 as related to Down syndrome, amniocentesis gained importance and was beginning to be regarded as a core and necessary procedure; especially for women categorised as being 'at risk' of carrying a foetus with the condition. Thus once amniocentesis was able to deliver foetal genetic and chromosomal information, this became its chief purpose. Such a refinement in antenatal information stemmed from an interest in monitoring pregnancy (c.f. Hiddinga & Blume 1992), a point addressed later in the chapter.

Returning to the discovery of trisomy-21, Lejeune was convinced that Down syndrome was related to hereditary mechanisms, which necessarily involved a change in the genetic material 'then known to be large enough to carry a polygenic message – a chromosome' (Kevles 1995: 246). Nonetheless, it was while studying what Lejeune saw as a 'mongol fly' that he discovered that they had one less chromosome than average flies. Such

a discovery encouraged him to study the chromosomes of his patients with Down syndrome, led by the belief that he would find a missing chromosome as the cause of the syndrome. Because Lejeune lacked knowledge in human cytogenetic techniques, however, he had to postpone his hypothesis until later. In 1959, history offered Lejeune the opportunity to pursue his quest, when in collaboration with 'Marthe Gauthier, a cardiologist who had recently learned the technique of tissue culture' (Kevles 1995: 247), and under the supervision of Raymond Turpin, Lejeune cultured pieces of connective tissue from three patients with Down syndrome. To Lejeune's surprise, instead of a missing chromosome, the tissue evidenced an extra chromosome to the count of forty-six, which was confirmed as the human chromosomal count in 1955 (Kevles 1995; Rapp 2000).

The discovery of trisomy-21 was of particular importance 'in dramatising the medical value of human genetics', for doctors learned that many disorders had a genetic or chromosomal origin (Kevles 1995: 254). The ability to test *in utero* for Down syndrome and other known chromosomal variations, as well as twenty-eight inborn errors of metabolism and a number of related genetic conditions, conferred to amniocentesis the necessary value for scientific recognition as one of the greatest tools for genetic diagnosis. Such scientific legitimization led to an impressive growth in amniocentesis use in the years that followed (Kevles 1995; Rapp 2000).

The attractive part of antenatal testing meant that women and couples could decide to terminate the pregnancy should the foetus show a chromosomal or genetic variation. In other words, and as depicted in medical literature, since its early days of incursion in the human genetics terrain, amniocentesis was thought of as a tool for early detection of foetal variation, and abortion was presented as a 'treatment' (c.f. De Mars 1969; Borgaonkar & Shah 1970; Boyle et al. 1970). Abortion following amniocentesis positive results was presented as a 'safe, effective and economically feasible corrective measure that can be applied to affected individuals ... At present, the only way in which the disease [Lesch-Nyhan syndrome] may be prevented, once conception occurs, is therapeutic abortion' (DeMars et al. 1969: 1305). In this regard, some authors in the US explained how, when consented by prospective parents, they would terminate *affected* pregnancies by 'the intrauterine injection of 175 ml of 10 percent saline' (Boyle et al. 1970: 689), and stillborn

foetuses would then be retrieved for further scientific research on the specificities of their condition (Boyle et al. 1970; Brady et al. 1971). Furthermore, medical literature from the late sixties and early seventies portrayed post-amniocentesis abortion as a program for controlling the incidence of genetic diseases (c.f. De Mars 1969; Borgaonkar & Shah 1970; Boyle et al. 1970). To have a disabled child was seen no longer as a matter of fate, but became a matter of *choice*.

In addition, in some countries important social and legal changes that took place during the 1960s and 1970s contributed to the impressive growth of amniocentesis use in the years that followed. Such changes 'offered unprecedented reproductive choices for women' (Mateu 2002: 236), to the extent that women were and are able to plan childbearing in relation to individual desires (i.e. abortion and contraceptive pills). Modifications in abortion laws started to take place shortly after amniocentesis was beginning to be used as a diagnostic tool for genetic variations. Abortion de-penalisation in 1967 in Great Britain and in 1973 in the United States stimulated a major boom in prenatal diagnosis (Kevles 1995: 257), especially in Europe and the US. Although the liberalisation of abortion laws was not solely related to the availability of prenatal diagnosis, it is noteworthy that, as argued by Rapp (2000: 33), 'the widespread deployment of prenatal diagnosis only became conceivable and possible when enrolled by and through legal access to abortion'. Thus, motherhood acquired a different meaning, as did the foetus.

Interestingly enough, in Colombia abortion was fully penalised until the year 2006, as discussed in Chapter 2. Nevertheless, such a legal barrier impeded neither the growing importance and practice of amniocentesis, nor the practice of selective abortion in the event of amniocentesis positive results. As expressed by Dr Sánchez-Torres (personal communication), by all other interviewed health care workers (geneticists, obstetricians, specialists in maternal-foetal medicine, nurses, psychologist), by participants of the National Forum on abortion de-penalisation, and by some media accounts (El Tiempo 2006), the abortion of foetuses different from the average has taken place in the country ever since the possibility of diagnosing such conditions in utero has existed. From oral accounts it is clear that although it was not accepted by the Colombian Penal Code (2000), many women and couples who received amniocentesis positive results still sought the abortion of that foetus.

Such a practice was not only known of by all specialists working with pregnant women who undergo amniocentesis, but it was also regarded as an accepted (and sometimes expected) practice by many, as presented in Chapter 3.

It is because of the current undeniable relationship with abortion – due the possibility of assessing foetal chromosomal and genetic (ab)normality – that amniocentesis is a polemic and contested technology. The fact that it enables individuals, physicians, and populations to decide on what counts as a desirable human being worthy to be born leads some to relate amniocentesis with eugenics, whilst others praise and respect it.

However, the eagerness for producing healthy offspring is not news. Close monitoring, control, and testing during pregnancy are presented by obstetricians as ‘good obstetrics’, and women consenting to such activities are, in turn, good patients (as the following chapter shows). The fact that pregnancy has been medicalised as part of the project of obstetrics is not news either. Hiddinga & Blume (1992) show that although obstetrics started out as the medical treatment of what were considered and conceptualised as pathologic births, this specialty eventually took over the whole process of all pregnancies. Not only ‘demarcating the normal from the abnormal’ (1992: 163), obstetrics in the twentieth century started to problematise the normal, and thus the notion of the risk of *potential abnormality* was introduced. Birth ‘came increasingly to be seen as difficult, dangerous and potentially pathological’ (1992: 164), thus, Hiddinda & Blume continue, ‘medical practitioners began to claim responsibility for, or jurisdiction over, not only the birth process but also pregnancy’ (1992: 165). In the Colombian case, Sánchez-Torres (1970) points out that the late 18th century witnessed the ‘arrival of a truly medical conscience: the wise José Celestino Mutis ... [who] in 1801 expressed “more urgent than in previous times is now the need of instructed midwives”’ (1970: 137-138). However, there was also the need for a structured practice of obstetrics performed by male physicians, and Mutis wrote the academic programme for the Medical School of the Colegio Mayor Nuestra Señora del Rosario in Bogotá. The obstetrics practice adopted by Colombian physicians belonged to the French tradition of obstetrics, which became the pillar of what is understood and practiced today (Sánchez-Torres 1970, 1991).

As referenced by Sánchez-Torres (1991), around the mid 1950s ideas about good and proper obstetrics were influenced by Anglo-Saxon doings, which meant being pragmatic and giving a central role to technology (Sánchez-Torres, Interview 2009). Such ideas introduced major differences in the practice of obstetrics in the country. Amongst the novel introductions we find the use anaesthetics, caesarean sections, and the growing interest in monitoring the foetus as a 'patient'⁴⁷. However, the responsibility felt by obstetricians to 'help people to be born well', and more importantly, the role of obstetrics in monitoring reproduction as a nationalistic project, is rooted in French ideas, as it is exposed in the following section. Such is the case for Dr Sánchez-Torres, born, raised, and educated during the first half of the 20th century, who stated that when he studied, practiced, and taught obstetrics he understood the field as having 'a social dimension and relevance that I stressed to all of my students ... *you care for one patient and one child, but each 'one patient and one child' are the sum of patients [who] constitute the country. Then, that means that healthy children suppose healthy citizens ... Our fundamental role is to guarantee the well-being of the mother, the foetus, and the neonate'* (Interview 2009).

In the following section I explore the possible links that exist between eugenic and hygienist thought within the development and the practice of amniocentesis, in relation to the possibility of choosing the kind of children prospective parents are willing to rear, and the now legal possibility of aborting *malformed* foetuses.

The promises of a brighter modern future; the formation of a competent, beautiful race

With what pleasure would I hang, before God's Tribunal, these feeble minded who are making the world ugly (López de Mesa 1935: 568. My translation).

At the onset of the 20th century, modernity – a normative project 'which exalts remunerated job[s], praises obedience, and determines how the adequate operation of

⁴⁷ For a more complete account of the development of maternal-foetal medicine see Chapter 5.

society must work' (Mosquera 2007: 123), and which includes clear notions about healthy social and individual bodies – made its way to Latin American countries (Sáenz et al. 1997; Pedraza 1998; Urías 2001; Suárez y López-Guazo & Ruiz 2001). This period was marked by Europe conceptualising Latin America as a region in decadence and degeneration, a view that emerged during the Age of Enlightenment (Castro-Gómez 2005). For Europeans, the state of the region was so given the mix of *races* that took place from the time of the encounter between Europe and the so-called New World (i.e. white European, black African, and Native Pre-Columbians).

In Colombia, knowledge about and from modernity was appropriated, adapted, and interpreted according to the particular historical and contextual reality of the country, described by Sáenz et al. (1997: 5. My translation) as such:

The currency of the ecclesiastic authority coupled with the catholic culture of its population, the predominance of rural life with its practices and traditional knowledge, the power of a degenerated race, the legitimacy of its institutions, the subjects, and medical knowledge, the deep division between elite and masses, the history of political violence, the struggle between local and national power, the inefficacy and weakness of the State and the importance of the school as the privileged space for the State to meet the masses.

This shaped the way in which ideas and practices related to modernity were introduced in Colombia. Similarly, notions such as racial degeneration, geographical determinism, and evolutionist psychology, which were born in Europe in previous centuries and articulated in Latin American countries, were actualised. Knowledge and practices regarding modernity and subsequently progress were articulated in a pedagogic reform of public education (Sáenz et al. 1997). Such a reform sought to restructure society and its people in a way that the race could be saved from further degeneration, which would thus bring the country to modernity and progress.

Europe had set its idealised self-image as the norm of all human existence from colonial times, and Colombian intellectuals, lawyers, and physicians did not hesitate to

regard white European scientific production, social organisation, and indeed the phenotype, as the rule for and paradigm of progress. Individuals belonging to that human group were considered superior to the rest of human beings in terms of race, which also meant superiority in terms of civilisation. That is, white Europeans as a human group, as exponents of scientific method and scientific production, became the constant and the metre by which all other human groups and knowledge productions were measured (Castro-Gómez 2005), not only by Europeans but also by nationals of other territories. In Colombia, this is evident through the following accounts:

In Colombia it is not possible to show a man an element of ... the ancestry of the geniuses and the heroes. There would be only one way ... for procuring the vigour that is lacking, not only in Colombians, but Americans in general. That way would be to detach from all local prejudice. To tenaciously fix the sight in the spectacle offered by the unfolding of European culture, since its Hellenic classical origins till nowadays, as a reflex of the beginnings of the things and its evolutions; to become saturated with its essence, as the essence of the being in itself, which is produced in everything. Only then will important things be conceived (Blanco 1918:310. My translation).

The English have a motto, which, to our feeling, gives the key to the superiority of that race over the Hispanic: 'Do not leave for tomorrow that which you can do today' ... [This motto] represents quite some centuries of difference in the civilisation of the two Americas ... we have been ruled by the same motto, although altering its essence when translating it into the character of our race. Amongst the Hispanic, although not mentioned ... is 'leave for tomorrow that which you can do today' (Editorial Senderos 1935: 341. My translation).

The notion of races – but more importantly, the radical biological and cultural differences between races – in which white Europeans and white North Americans were regarded as superior in human capacities and beauty, was articulated through discourses used to explain socio-economic and cultural differences as being biologically determined (Sáenz et al. 1997). Therefore, countries needed to take care of their populations, given that

degenerated races would not be able to bring about modernity and progress (c.f. Stepan 1991; Pedraza 1998; Carrillo 2001; Suárez y López-Guazo & Ruiz 2001).

Bodies were subjected to inspection and control, for it was believed that 'without a clean, healthy body, deprived of awakened and educated senses, lacking a cultivated sensibility, a real intellectual advance would be impossible, as would be impossible the moral development required by the country' (Pedraza 1998: 117. My translation). Thus the context was one of anxiety about the future and discontent about the people, brought about through a confrontation with the inherited European belief that the degeneration of the race meant the degeneration of nations, and coupled with the strong notion of the inferiority of indigenous and black people that condemned nations to remain in a perpetual state of backwardness (Stepan 1991; Larrain 2000). In this context, Latin American elites appropriated eugenic and hygienist discourses that promised to improve the human stock (c.f. Stepan 1991; Pedraza 1998; Carrillo 2001; Suárez y López-Guazo & Ruiz 2001; Urías 2001; Palma 2002).

For the Colombian case, it is important to remember that by this point in history the Republic had only had a hundred years of existence. Thus, the novelty of the country, in combination with racist ideas about being composed of a race in degeneration, were merged with hygiene and eugenics discourses as a nationalistic project of improving the human, social, political, and economic stock in search of a brighter future. There was not, however, a solid, unified, and coherent idea of what the *Colombian race* meant in the first place, although it was not doubted that such a thing existed. Such an idea of race was, undoubtedly, related to the mother country. This is visible, for instance, when Castro (1920: 4. My translation), a physician who debated about the state of degeneration of the race, stresses that:

Our race does not have defined or precise characteristics, because it does not exist in its purity, for being reduced to a very diverse ethnic conglomerate ... The time elapsed from the moment we became an independent nation, from the time that we acquired the right that history mentions us, is not enough to predict our vital future march.

The image of the race was 'constructed from biology, making use of notions and concepts of this science ... [but] more than experiments and rigorous observations, such notions were constructed upon social and political racist imaginaries' (Sáenz et al. 1997: 19). In this context of contested racial legitimacy and racist understandings of society, the idea of the *mestizo* (of mixed blood) was embraced as a marker for the people of the region. The idea was to recognise that Latin Americans were a product of the mix of Europeans, pre-Columbian populations, and traded slaves. All Latin Americans, having marked differences from country to country, were then *mestizo*, and the *mestizo* imaginary became the token for homogenisation at the national level (Wade 1993; Suárez y López-Guazo & Ruiz 2001; Carrillo 2001).

However, as Wade (1993: 11) explains, 'the *mestizo* was idealised as of bi-ethnic or tri-ethnic origin, but the image held up was always the lighter end of the spectrum. The future would bring, almost magically, a whitening of the population through race mixture'. Hence the romanticised imaginary of the *mestizo* nation – as being all of the same mixed origin – still had, as expected, discriminatory consequences (Wade 1993; Suárez y López-Guazo & Ruiz 2001; Carrillo 2001; Mosquera 2007; McGraw 2007).

But despite the attempt at articulating race to origin and (mix of) blood, it is noteworthy that the concept of race was not limited to perceived skin colour or family history (i.e. indigenous and black populations). Poverty represented an obstacle to progress; there was a need for ameliorating housing and work environments, and such were the basis of the hygienist movement – and later public health – in many places in the world (c.f. Jones 1986; La Berge 1996). In Colombia, the poor (of any colour) were also seen as a source of degeneration:

[Given] the well-known difference of our social environment with its intellectuals on top and its illiterate mammoth multitude, our moral progress is taking place at a very dissimilar and dangerous pace (López de Mesa 1918: 65. My translation).

If Colombia is degenerated, it is not uniformly so, because much difference exists between the indigenous [*indiadas*] of the highlands [*altiplanicies*]

afflicted by a miserable life, and the leading classes of cities such as Bogotá, Medellín or Popayán (Castro 1920: 6. My translation).

The romantic times, in which it was vainly supposed that men could be honest and gentle in poverty have passed. Deleterious to all virtues is hunger (López de Mesa 1935: 566. My translation).

Similarly, it is possible to find in the Colombian academic production of the time the racialisation of characters, attitudes, and interests. Such is the case of the *antioqueños*, considered to be a superior *race* amongst other *Colombian races*, and to share *racial* aspects with the British:

[In] the antioqueño race the following liberal characteristics are predominant: love for their own judgment, with a highly marked and proud personal autonomy; quick adaptability to new ideas in industry and in commerce; [with a] conduct in constant experimentation and reflexive of the method, friend of technical precision, above all. This approximates antioqueña psychology to British psychology (López de Mesa 1918: 62. My translation).

In the above depiction of what was presented as a good, strong Colombian race, the modern values, mentioned before, are evident. Furthermore, such a characterisation of a good race makes it possible to pinpoint as deviant and as the source of the degeneration of the race those who, for whatever reason, do not share the mentioned ideas, values, and conduct.

But the *antioqueña* race was not the only one to be considered superior or better adapted, and with a better prognosis for the future. For Castro (1920: 23. My translation), the inhabitants of the mountains showed signs of better well-being, whilst he also found that ‘the principal men, the leaders and active men of cities such as Bogotá, Medellín, Manizales, Cali, Cartago, etc. are forty-five years and older and they do not show the slightest sign of decadence’.

Given that race supposed the human population of the country, the struggle for bettering it also included highlighting and appreciating specific ideals regarding bodily and mental/intellectual characteristics. In relation to the Colombian race, Senate representative Edmundo Rico (1936: 5. My translation), who engaged in a debate about the imposition of a compulsory prenuptial medical statement, found that the ‘organic and mental levels of our races ... are, unfortunately, rather degenerated and defective’. This he considered a major worry if it was taken into account that, as it was perceived at the time, ‘the reality of a healthy and vigorous social body represents honour, survival, and respect in the concert of humanity’ (Restrepo Jiménez 1941:17. My translation).

As has been shown above, the concept of race included normative ideals about the body and the mind, family history and origin, behaviour, social position, and the economic status of individuals. In such a context, ideas about modernity, eugenics, and hygiene were adopted as the formula for achieving European and US standards of progress; though not without enormous distrust on the part of the masses and the individual (Sáenz et al. 1997). Although the disappointment and hopelessness about the inhabitants of the country felt by physicians, lawyers, and educators was immense, positions regarding the level of the degeneration of the race were not unanimous. There existed the most extreme opinions, as in the case of Dr Jiménez López, the physician who perceived Colombia as presenting ‘undoubtedly signs of a collective degeneration; physical, intellectual and moral’ (Jiménez López, quoted in Castro 1920: 3. My translation). He had lost all hope in the future of the *race*, if left alone to reproduce without the intervention of European citizens. But there also existed other intellectuals in more moderate positions who, even though they recognised the degeneration and danger for the race that marginalised people represented – especially for the country’s progress and the achievement of the modernity project – still held hope in bettering the population stock from within, in combination with help from outside (i.e. European migration). Given such disparate positions, it is no wonder that ideas about finding means for the betterment of the people, and thus of society, were not unanimous (c.f. Bejarano 1913; López de Mesa 1918; Castro 1920; Rico 1936).

Yet, in spite of their differences, the leaders of the movement, in querying the future of the race, saw in education, hygiene, eugenics, and massive immigration of white

Europeans, the ways for improving the race and thus the region. Eugenics was welcomed as a great promise, for its highest aspiration was presented as being able to 'free the rational species from the defects with which it comes to live' (Rico 1936: 6. My translation).

For those at the radical end, the first option to stop racial degeneration was to stimulate and enable massive immigration from white Europeans, while discouraging the union of *degenerated* individuals:

A stream of European immigration, numerous enough, would slowly smother the aboriginal and black blood, which are, in the opinion of sociologists that have studied us, a permanent element of backwardness and of regression in our continent (Jiménez López, quoted in Pedraza 1998: 142. My translation).

Nations, as the living agglomerates that they are, need, the same as the individuals of living species, to look for breeding with others [nations] that can give them force to become stronger and to fructify; otherwise, they will face slow extinction, which for nations means their nullity in the civilisation arena. Colombia has an alternative: [either] it abandons the belief of having produced big men and goes in the search of them, as a spring of sustenance for its culture in Europe, and so it [Colombia] can survive; or it keeps such a belief and it will consume slowly as the organism which, for not breeding with the most vigorous varieties of its species, succumbs at the end (Blanco 1918: 311-312. My translation).

At the more moderate end of the spectrum, and although they supported European immigration, the greater number of scholars, physicians, lawyers, and educators who composed the eugenic and hygienic process considered education and the implementation of hygienic programs to be more effective and more adequate for the national context:

The undeniable ailments of our country do have remedy ... I am referring to education and hygiene (Castro 1920: 73. My translation).

The most important task that can be done in a nation is the education of its masses, because all true well-being, all positive progress, all effort for the people and the nation rest upon merely one powerful means: education (Bejarano 1913: 11. My translation).

Education in hygiene (Castro 1920; López de Mesa 1918), in behaviour (Bejarano 1913; Torres & Vasco 1935; Vasco 1956), in eugenics (Rico 1936), and in hygienic reproduction (Jiménez López 1920, quoted in Pedraza 1998; Rico 1936; Resptrepo 1941; López de Mesa 1928) – in short, education in being and becoming responsible for the future of the race – was the central element for improving and securing the future of the country.

For instance, Bejarano (1913), a physician and educator who became the founder of the Department of Hygiene and also of the Superior School of Hygiene, stressed that the education of individuals included, irremediably, physical education. Such education involved hygienic values that the physician considered paramount for achieving a *mens sana in corpore sano*, which, in turn, supposed the betterment of the people by physical, intellectual, and moral standards:

[P]hysical education is the basis of organic and spiritual life, its influence is decisive in the individual and also in the social ... it [physical education] strengthens and disciplines the person, makes it more resistant and strong ... [G]iving [to the person] physical and moral energies, benefits not only the person but also the entire community, providing [individuals] more apt for work for it [the community] and not being, with the person's weakness or flaws, a social burden (Bejarano 1913: 12. My translation).

The focus on education and hygiene as crucial for regenerating the race evidences Lamarckian ideas about the inheritance of learnt behaviour. Neo-Lamarckian positions about heredity were well received, not only because French thinkers represented for many centuries the scientific paradigm for Latin Americans (Stepan 1991; Sánchez-Torres 1991). Further, the reliance on Neo-Lamarckian ideas was due to the fact that such ideas perceived heredity as passing on acquired traits to offspring, and thus offered hope and opportunity to better the national human stock through careful reproduction (Stepan 1991). This was in

opposition to rigid Mendelian forms of heredity (of the type that were used by British eugenicists, for instance)⁴⁸, which left no possible solution for the degenerative state of the region. Such a position is made clear when Castro (1920: 16. My translation) highlighted that ‘misery, bad education, loss of energy [*abulia*] and lack of order, although unfortunate vices, are modifiable through a strong and efficient therapy’.

Nevertheless, for the physically and the mentally ill, education and hygiene did not guarantee either rehabilitation – and thus the possibility of becoming productive – or the potential for correcting traits so that they would not be inherited by their offspring. Therefore, what was seen as the best mechanism for controlling the *unfit* population was to educate prospective parents in what was called ‘hygienic reproduction’ (c.f. Restrepo Jiménez 1941; Rico 1936). Such a turn to preventing defective children from being conceived marks the beginning of the focus on reproduction and prospective parents. It would be misleading, however, to assert that birth control was articulated only to prevent the birth of people with disabilities. The discourse of birth control amongst the working classes gained importance and strength as well, as such parts of the population were considered to bear and spread social illnesses⁴⁹. Thus, in Colombia, as elsewhere (c.f. Stepan 1991; Kevles 1995), the topic of reproduction was extensively addressed by jurists when discussing the viability of imposing a pre-nuptial medical certificate (Rico 1936; Restrepo Jiménez 1941):

There should be intense popularisation campaigns about the diseases that are dangerous for procreation ... the masses [*el pueblo*] will acquire such sexual consciousness and responsibility ... Biologically, degeneration and illness are factors of natural selection, because at the end, in the struggle for life, the defective will perish, whilst the strong will last. Let us fight ... for the implantation in the customs of our compatriots this eugenic responsibility and consciousness of sexual education in regard to the procreation of our children (Rico 1936: 72. My translation).

⁴⁸ c.f. Kelves 1995.

⁴⁹ Differential birth control policies are not limited to the Colombian case. In the US in the early 1900s, birth control policies were also differently tailored according to socio-economic conditions. Ramsden (2002, 2003) highlights that social demography was supported on eugenic ideals, given the belief that by controlling the reproduction of the poor, the social and biological illnesses they carried and transmitted would also be controlled. To control such illness supposed a betterment of socio-economic conditions.

The choosing of a partner, the mutual collaboration of the parents in their children's well-being, their conduct and their sanitary situation cannot be indifferent to their collectivity and to who watches over it when it comes to procreation (Restrepo Jiménez 1941: 15. My translation).

Physicians also discussed selective reproductive, as for instance the paediatrician and puericulturist Vasco (1956: 3. My translation), who talked about the need to educate people in choosing a life partner: 'Do these two people, who are going to merge their destinies, ever ask themselves which social function will their family have ...?'

Thus, the physically and mentally ill (together with alcoholics, prostitutes, delinquents, and the poor) were seen and conceptualised as social diseases within the general discourse of eugenics, not only in Colombia but also elsewhere (Kevles 1995; Palma 2002). Furthermore, these individuals were considered the source of backwardness and ugliness, which held the country back and prevented it from being amongst the 'civilised nations'. It is in this context, in which the preoccupation about controlling the birth of people with disabilities – deemed as inherently sad, burdensome, and unproductive for the nation project – crystallised and took clear shape:

All ... psychic imbalances and ... anomalies of character, [the] frequency [of] which is raising, are one of the more essential factors of the misfortunes of individuals and of the destruction of families ... This mental deterioration is even much more dangerous for the civilisation than the infecto-contagious diseases, which, up until now, have been the sole occupation of hygiene (Rico 1936: 40. My translation).

Eugenics' goal should not be scientific procreation ... but the aspiration ... of preventing, through humanitarian and moral means, the procreation of ill offspring ... of preventing beings that come to the World constituting a burden and a case of tragic human impoverishment (Restrepo Jiménez 1941: 16. My translation).

The discourse about the degeneration of the race – which legitimised eugenics, discrimination, and social hygiene – naturalised origin and class differences, and included marginalised populations, the physically *unfit* and mentally ill, drunkards, and prostitutes. Given that all such people were regarded as contributing to the degeneration of the race and of the nation, they all needed to be controlled, disciplined, and eventually they should all be extinguished.

Eugenics and hygiene did not (and still do not) pertain to *race* only, as it is usually considered. When referring to the case of Colombia, anthropologist Zandra Pedraza (1998: 120-121. My translation) points out that:

The accent made on the racist [in terms of family origin] contour of this debate has relegated other aspects of the discourse, especially the fact that it is not simply about a work of exalting white European culture and Enlightenment, but a very particular form of anthropology [an understanding of the individual and his/her body] based on the elevation of hygiene and with it the white, male adult, from whom the science of health defined normality, along with a hierarchy of human capabilities and possibilities. Marginalised and degraded became children, the ill, all deviants, indigenous, black, and mestizo people, the poor, and women. For all of them, sciences were developed to be able to study, comprehend, and discipline them: pedagogy, puericulture, hygiene, psychiatry, ethnology, sociology and gynaecology.

As shown in the above excerpt, with the pathologisation of morphological and mental constitution, attitudes, traits, socio-economic status, and cultural background – or what can be called *the hygienisation of social life* – the role of physicians became paramount in achieving the desired social body, which would be constituted by healthy, beautiful, and productive individuals. Eugenics and hygiene – alongside the medical disciplines related to them – were seen and practiced as social medicine:

Dr Jiménez López [with his eugenic call to ameliorate the *race*] contributes ... to creating amongst us the neglected branch of sociological medicine, which is of great importance to researchers in civilised nations ... The role of the physician cannot be, then, circumscribed ... to prescribing laxatives,

stamps or injections, neither to assuming hermetic attitudes towards human suffering ... Active, penetrating, and revolutionary must be his doings, for abetting the definitive amelioration of the race (Castro 1920:3-4. My translation).

Physicians became pivotal figures for articulating hygiene, education, and progress. They were portrayed as educators of health and hygiene, at the same time as they became guardians of social well-being:

The physicians correspond, as the guardians of health that they are, to call the attention of governments to the points that touch upon it [hygiene] and which are of general interest. To them [physicians] [it] also corresponds to make hygiene go beyond the educational institutions' thresholds and with their wise laws watch over those who will become tomorrow's men and soldiers (Bejarano 1913: 16. My translation).

The social commitment of such a group of physicians was made openly visible by Bejarano (1932) when presenting his arguments for the need to open the Superior School of Hygiene:

[H]ygiene requires, above all, the vocation of those in charge of it, a sort of vocation different from that of medicine ... this professional, more than any other, [should] be preoccupied about social problems in relation to diseases, with the struggle against vices, in a word, all that is translated into population well-being and vigour for the race (Bejarano 1932: 228. My translation).

Evidently, in such a state of affairs, one activity that needed close monitoring and control was reproduction, and one body that needed close surveillance was that of the woman. If Colombians were to become – or at least struggle to become – a healthy, fit, and civilised social body, the role played by reproduction was central, not to mention the role played by women: they were the ones to not only produce healthy individuals, but also to

educate them into becoming good citizens (López de Mesa 1928; Vasco 1956). Women were called in to be part of the modernisation process and the regeneration of the race through their reproductive capability, as expressed by Venezuelan poet Alfonso Marín (1935: 604-605. My translation):

[P]eople from all colours came to mix up their conditions and attributes in the enormous forge of this suitable land. And from such a fusion ... you have emerged as a promise South American woman ... you are crucible of a new race. In your hands lies the future of a whole continent ... the duty demands you to always be haughty, conscious, healthy, worthy, and strong ... Fertile, fragrant, and warm as the American forests. Your veins are rivers of the future and there is a cluster of dawns on your shoulders ... Do not forget, not even for an instant, that in your hands lay the hope and the future of America.

Women's bodies became the focus of hygienists and physicians, and through the medicalisation of pregnancy via obstetrics, the female body materialised. Although present in the country for a handful of decades, by the late 19th century gynaecology and obstetrics had gained a definite place in the medical sciences and education in Colombia (Sánchez-Torres 1970, 1991) and became the science of reproduction. During the times of hygiene and regeneration, the medicalisation of pregnancy and reproduction continued to take place and to fortify. Maternity services had existed in Bogotá since 1887, but by the 1920s they were mainstreamed into the main public hospital, San Juan de Dios, which was, at the same time, the main medical school (Sánchez-Torres 1991). The increasing relevance that the focus on the medicalisation of reproduction had by that period was expressed and made evident in the yearly report that Dr Ucrós, director of the Hospital San Juan de Dios, presented in 1933:

[M]aternity rooms are insufficient nowadays for the needs of the city ... this service reports the enormous contribution that the Hospital San Juan de Dios is making to meliorate childhood and to protect the race (quoted in Sánchez-Torres 1991: 193. My translation).

Alongside and complementary to gynaecology and obstetrics, another science related to reproduction was appropriated from France, namely puericulture: a discipline that combined obstetrics and paediatrics and which was seen as 'scientific child-rearing that was born medically recommended and socially oriented and the art in charge of the reproduction and education of the human species' (Birn 2007: 688). This science originated in France as early as 1865, and was re-adopted by French professor of obstetrics and hygienist Adolphe Pinard, who around 1890 was worried about the low reproductive rates and high infant and maternal mortality and morbidity rates in France. He was also concerned about 'puericulture before birth', which emphasised parental influences on the hereditary condition of the offspring; a clear eugenics approach to reproduction (Stepan 1991). Pinard, and most of the paediatricians and obstetricians of his time, 'thought of mothers and children as forming a kind of reproductive, collective political economy whose health was vital to the nation' (Stepan 1991: 77). Thus, as explained by Palma (2002: 146-147), Pinard stressed that 'eugenics have an objective to study and to make known the most favourable conditions for reproduction, in order to apply them in the best possible way for keeping and bettering the human species'. As has been shown already, Colombian obstetricians, gynaecologists, and puericulturists largely shared this view (c.f. Torres 1936; Torres & Vasco 1935; Vasco 1956).

Pinard, jointly with other paediatricians and obstetricians of the time, was not only concerned about clinical practice, but was also focused on prevention and education, especially of mothers, given that most psychopathologies were considered to be related to rearing practices (Birn 2007). The importance of Pinard lay in his interest in studying the relationship between reproduction and the improvement and conservation of the human species. Puericulture then 'focused physicians' attention on the importance of maternal and child care for the future of the nation ... puericulture made the mother-child unit the special site of medical attention, and obstetrics, gynaecology, and paediatrics the paramount medical specialties' (Stepan 1991: 78), which many consider to be the origins of antenatal medicine (c.f. Herschkorn 1996).

Colombian obstetricians and paediatricians followed and embraced puericulture as a paramount element of their practice. In that way obstetrics became linked with eugenics,

along with population policies, protection of the pregnant woman, and infant welfare. Due to Colombia's strong Catholicism, which prohibited the practice of abortion, sterilisation, birth control, and euthanasia, the way for bettering the nation's human stock (in terms of eliminating the *unfit*), was, again, via education in behaviour, reproduction, and childrearing. As expressed by Castro (1920: 81. My translation):

There should be [a] watch over female education, opening new directions to women's aspirations and activities while trying to deeply link their hearts with the home country, in such a way that we get admirable mothers, capable of educating distinguished and strong citizens: it is in the mothers that the greatness or decadency of a people rests.

Such a move towards eugenics is also visible, for instance, in the rhetoric of Paediatrician Calixto Torres Umaña, who framed his famous discourse on puericulture as part of the 'defence of the race in health-related ailments' (1935: V. My translation). For Umaña, prospective parents needed to be aware of the social responsibilities they took on when reproducing. The woman was portrayed as having an 'organism in which the sacred mould of race is contained', therefore she needed to be acquainted with 'the basic notions of puericulture' without which 'she could not have the *right* to aim to maternity' (Torres 1935: 1. My translation, emphasis added). Similarly, in relation to the choosing of a mating and breeding partner, puericulturist Eduardo Vasco (1956) poses questions that, in his opinion, the prospective bride and groom should contemplate before getting married:

Besides the exterior forms, of his capability to please, do I know anything more about what my life companion-to-be will offer me? What do I know about his ancestors regarding degeneration, bad conduct, and which flaws or whatever sort of defect [*tara*] hang over him? And in which way will they affect his and his children's future? Would we have any kinship relation and, that being the case, were the primitive trunks healthy or ill? ... Both, in common agreement, must mix with the vaporous wrap of their dreams considerations of this sort in order to attempt to resolve these, sometimes terrible, realities that, without a doubt, will be projected if they were not considered before, with characteristics of tragedy as the years pass by (Vasco 1956: 4. My translation).

Although the prenuptial medical statement was long debated in the Senate, it was never actually enacted. That does not mean that the education of couples preparing to be married or planning to reproduce was not regarded as a paramount issue:

The prenuptial medical statement is an instrument of sanitation ... that indicates the favourable conditions of the contracting parts, in a way that they do not signify a danger for each other or for their future offspring ... [I]t is an instrument with eugenic sanitation ends, that tends to procure happy and healthy procreation and delivery ... directed to secure the arrival of human beings capable of properly attaining their mission in life (Restrepo 1941: 30. My translation).

However, for those worried about the future of the race, there was the chance that people, once denied permission to marry, would still go ahead and have children outside of marriage, which was considered an even greater threat to the general well-being of society (Rico 1936; Restrepo Jiménez 1941). Such children were thought of as being deviant by facto:

It is undeniable the importance that for the morality of society and for the legitimate aspirations and conveniences of the children, that the parents who have given them life are united by the marital link ... [C]hildren who are born outside marriage, apart from the morbid characteristics that from their parents they may inherit, will also bring on the inferiority that the illegitimacy of their birth carries (Restrepo Jiménez 1941: 66. My translation).

A further problem was identified, namely that the masses, workers, and peasants, seen as more needful of social attention, were in fact used to having *illegitimate* marital unions, hence the imposition of a prenuptial medical statement would not reach the population that, for these eugenicists, most needed to be reached:

In Colombia, illegitimate unions exceed the legal ones ... the immense mass of Colombians, precisely the part in need of more protection from the biological and racial point of view, will be left out of the effects of a law that may stimulate more illegitimate unions, as it poses obstacles to legitimate unions (Esguerra Gómez 1936: 67. My translation).

As the reproduction of healthy citizens in order to create a healthy society was imperative, so was protection of the pregnant woman and the foetus, then of the new mother and the newborn. Sánchez-Torres (1991) shows that in 1931, by Law 129, the international law signed in Washington in 1919 – by which it was declared that pregnant women should not work in ‘jobs that could affect the foetus’ – was ratified in Colombia (1991: 213. My translation). The law also included maternity leave (of 8 weeks) and recommended time for breast feeding (15 minutes every 3 hours). However, it was not until 1938, by Law 53, that such protection for the pregnant woman materialised (1991: 214-215. My translation).

Worldwide, eugenics as a discourse tended to fade away after the Nazi experiences discredited the entire project. In Latin America, however, since there was not such extreme racial segregation, and the existing discrimination did not take on Nazi proportions, eugenics was not necessarily regarded as entirely wrong, nor was it abandoned as a discourse since it was still seen as expressing a valid concern for the general well-being of the population (c.f. Malagón 1968; Castilla 1977). As shown above, many Latin American eugenicists understood and used eugenics as belonging to the spectrum of preventive and social medicine (Stepan 1991; Birn 2007), and eugenic dispositions towards marriage and procreation were presented and developed as being entirely voluntary on the part of the individuals concerned (c.f. Rico 1936; Restrepo Jiménez 1941).

Perhaps it is because of the touch of social and preventive medicine and the focus on individual will that the practice and discourse of eugenics acquired in Colombia, that long after the global rejection of eugenics it was still possible to find instances of eugenics discourse amongst Colombian scholars, lawyers, and physicians. A clear late example of this is that in 1968, when inducted as member of the National Academy of Medicine, Dr Malagón expressed the view that ‘eugenics refers to the preventive treatment of congenital

malformations' (Malagón 1968: 14. My translation). Congenital malformations included a broad spectrum of conditions, malformations, and attitudes that, still by 1968, were related to socio-economic strata. The obstetrician went on by stressing that 'the percentage of children who are feeble minded ... is higher in the inferior socio-economic classes. Proofs of intelligence show, on the other hand, higher levels [of intelligence] amongst the elevated classes' (Malagón 1968: 19. My translation).

As late as 1977 it is still possible to find scholars proposing that eugenics, euthanasia, and selective abortion should become part of legislation as a core element of the 'protection of the human race in all its totality ... avoiding by all means that the [general interest] is harmed' (Castilla 1977: 28. My translation). In other words, there was a proposal for eugenics to be legally mandated so that 'the race and the human species is improved, and all social disease [*morbo social*] is extirpated, in order to achieve a world completely free of the problems that are born of lack of foresight' (Castilla 1977: 27. My translation).

By looking into the Colombian version and development of eugenics, of which a main focus became the monitoring, medicalisation, and control of the mother-child unit – including, of course, *puericulture before birth* – it is clear why and how amniocentesis became relevant in Colombia. It represented a procedure for studying and controlling the pregnant uterus, and for controlling the foetus. The ban on abortion, birth control, and sterilisation, based on Catholic and Christian principles, may also help explain why amniocentesis was available in the country before abortion was de-penalised. But further, obstetrics' seminal ideas of puericulture, and the general public discourse on the need to produce productive, healthy, and fit individuals, may in turn help to explain why, despite the ban on abortion, amniocentesis positive results often led to selective abortion. It may also contribute to an understanding of the conceptualisations of foetuses with particular conditions as utterly undesirable in socio-economic terms:

I am pro abortion in all cases of foetal malformation. I mean, what is not good should not obstruct [*lo que no sirve que no estorbe*]. You have to think in terms of the country ... This is a country in war, we need people to fight in the war zones, and you tell me how a mongoloid is going to be able to shoot a fusil? That is useless, that [the person with Down syndrome] is only an

expense to the country ... I do believe that maternal foetal medicine is the quality checkpoint of humanity. Here we are able to say "you pass, you don't" (Dr Torres, specialist in maternal-foetal medicine, interview 2007).

Final comments

In Colombia, ideas of *progress* and *development* persist as part of the cultural and official repertoire of the 'imagined community'. Hidden and sometimes overt forms of discrimination and racism against human populations such as indigenous peoples, blacks, and people with disabilities are a daily experience for many. With regard to the first two groups, the actual discourse of Colombia as being a pluri-ethnic and multicultural society gives the impression that racism is a matter of the past (Wade 1993, 2000); research into the area of discrimination and racism, however, shows the opposite, though given the discourse of cultural heterogeneity, such forms of racism have been played down and have become invisible (c.f. Wade 2000; Viveros 2007; McGraw 2007; Mosquera 2007).

Similarly, with regards to reproduction, the permanent discursive focus on women's and couples' reproductive autonomy makes it virtually impossible to deny the claim that current antenatal diagnostic technologies, the results of which are used for deciding upon selective abortion in the event of positive results, are rooted in previous (and present) ideas about *unfit* children. This further links with the generalised and structural understandings about the social and individual burden that such children are depicted as representing, which speaks eloquently about the perception of people with disabilities in relation to productivity, in a system that overvalues economic productivity (c.f. Castañeda & Peters 2000).

Addressing discrimination, sociologist Mara Viveros (2007: 107. My translation) points out that:

The political recognition of the problem of discrimination, and the importance that such is beginning to have in the public space, is rather

recent. Equally recent is the current reference to the lack of public consciousness and the generalised ignorance about the deficiencies, but also rights of the populations and groups being discriminated against ... However, one could assert, from a historical perspective, that discrimination is not a new issue, as is not the political debate. Discrimination finds its origin in the prolongation and permanence of given negative social and cultural representations of those who, as a collective, have been perceived as “different” and have been excluded from the competent exercise of citizenship, for historical, cultural or social reasons.

Within such a context of normalised medical control of pregnancy, coupled with deeply rooted imaginaries of people different from the standard as undesirable, it is clear why amniocentesis in Colombia has had such a long history, despite the fact that most of its initial usages have been rendered obsolete. Furthermore, it is clear why amniocentesis results, when positive, may fall into the category of ‘conditions incompatible with life’, even though the conditions it may diagnose are not necessarily lethal. This explains also why women and couples carrying such a foetus request (most of the time) a now-legal abortion, for the conditions diagnosed through amniocentesis may be considered as being incompatible with prospective parents’ life plans, as the final chapter shows.