



# Part III

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**Science and Technology:  
The Case of One Woman, Many Women**





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Busy Career and Intimate Life:  
A Biography of Nahid Toubia,  
First Woman Surgeon in Sudan

Jackline K. Moriasi

**Introduction**

Not long ago, Dr Gerda Lerner said in her address as the new president of the Organisation of American Historians that, ‘if the bringing of women—half the human race—into the center of historical inquiry poses a formidable challenge to historical scholarship, it also offers sustaining energy and a source of strength’ (Lerner 1982:69).

Women have contributed in every possible way to the technical advancement of humanity. They have carried the same burdens of scholarship as men, and they have accomplished just as much. They have been as resourceful and passionate about their work, and certainly as creative. Such women have left a remarkable legacy. Their stories are a clear light to the future.

Yet, women remain grossly under-represented in science and technology professions worldwide, especially in developing countries. This fact has generated considerable concern, mainly among feminists but also in the society at large. Feminists have stressed the need for equality of opportunity for both sexes and the desirability of reducing the existing male domination of science and technology. Society recognises that it is essential to harness the vast human resources of women in order to promote development (Harding 1998). Thus, the under-representation of women in science and has serious practical implications. Failing to encourage women to develop and use their talents in science and technology amounts to a serious drawback, considering women’s numerical strength and the abundance of their scientific

potential. The potential of women to utilise their scientific capacity as much as men is evident in the life of Nahid Toubia, the first woman surgeon in Sudan.

It has often been argued that oral history is a basic tool in our efforts to incorporate the previously overlooked lives, activities and feelings of women into our understanding of the past and the present. When women speak for themselves, they reveal hidden realities; new experiences and perspectives emerge that challenge the 'truths' of official accounts and cast doubt on established theories. Interviews with women can explore private realms such as reproduction, child rearing and sexuality to tell us what women actually did, can do or should have done. Interviews can also tell us how women felt about what they did and can reveal the personal meanings and values of particular activities. They can, but they usually do not (Gornick 1983). Women have much more to say than we have realised. As oral historians, we therefore need to develop techniques that will encourage women to say the unsaid. It is from this perspective that I trace the life and times of Nahid Toubia.

#### **Nahid Toubia: From Humble Environment to International Fame**

Nahid Toubia was born in Khartoum in 1951 and she attended medical school in Egypt to become the first woman surgeon from Sudan. In 1981, she became a fellow of the Royal College of Surgeons of England and the first woman surgeon practising in Sudan, serving as the head of the Pediatric Surgery Department at Khartoum Teaching Hospital for many years. Recently, she worked for four years as an Associate for Women's Reproductive Health at the Population Council in New York City. She is currently an Assistant professor at Columbia University School of Public Health and the founder and director of Research, Action and Information Network for Bodily Integrity of Women (RAINBO) in New York. She is a member of several scientific and technical advisory committees of the World Health Organisation, UNICEF and UNDP and vice-chair of the advisory committee of the Women's Rights Watch Project of Human Rights Watch, where she serves on the Board of Directors. She is also member of the Board of the Association for Voluntary Surgical Contraception (AVSC) International.

Barriers to women deriving from the structure of the academic system are reinforced by 'cumulative disadvantage' factors that exclude other women from science but also carry over and affect the academic careers of women. These include the differential socialisation of men and women, impaired self-confidence and negative expectations regarding the impact of children on women's academic careers. The roots of this problem lie in the different gender experiences of boys and girls. As young girls and women, females are socialised to seek help and be help givers rather than to be self-reliant or to function autonomously or competitively. Girls are encouraged to be good students in so far being given a task, completing it well and then receiving a reward from an authority figure.

However, in graduate school, behaviour is expected to be independent, strategic and void of interpersonal support. These expectations are antithetical to traditional female socialisation. In addition, the needs of women, based on socialisation which

encourages supportive interaction with teachers, is frowned upon by many male and some female faculty as indicative of inability. As one female graduate student put it, 'the men have the attitude of "Why should people need their hands held?" ...' Lack of a supportive environment exacerbates an often already low level of self-confidence.

### **Assembling Women's Perspectives**

Recent feminist scholarship has been sharply critical of the systematic bias in most academic disciplines, which have been dominated by the particular and limited interests, perspectives and experiences of white males. Feminist scholars have insisted that the exploration of women's distinctive experiences is an essential step in restoring the multitude of both female and male realities and interests to social theory and research.

Assembling women's perspectives is therefore important for feminist scholars because women's experiences and realities have been systematically different from men's in crucial ways and need to be studied in order to fill large gaps in human knowledge. This reconstitution of knowledge is essential because of a basic discontinuity. Women's perspectives have been neglected not simply as a result of oversight; they have been systematically suppressed, trivialized, ignored or reduced to the status of gossip and folk wisdom by the dominant research traditions institutionalised in academic settings and in scientific disciplines. Critical analysis of this knowledge often showed that masculine biases lurked beneath the claims of social science and history to objectivity, universal relevance and truth.

The need to study women's realities and perspectives raises methodological as well as substantive issues. Dominant ideologies have distorted and made invisible women's real activities, to women as well as to men. For example, until recently, it was common for women to dismiss housework as 'not real work'. Yet, unlike most men, women also experience housework as actual labour, as a practical activity that can fill their daily existence. In effect, women's perspectives combined two separate consciousnesses: one emerging out of their practical activities in the everyday world and one inherited from the dominant traditions of thought. Reconstructing knowledge to take account of women, therefore, involves seeking out the submerged consciousness of the practical knowledge of everyday life and linking it to the dominant reality.

The perspectives of two feminist scholars, Marcia Westcott and Dorothy Smith, have especially influenced our thinking about oral history. Westcott provides us with a basic approach to individual consciousness. She describes how traditional social science assumes a fit between an individual's thought and action 'based on the condition of freedom to implement consciousness through direct activity'. But within a patriarchal society, only males of a certain race or class have anything approaching this freedom. Social and political constraints have limited women's freedom. Thus, in order to adapt to society while retaining their psychological integrity, women must simultaneously conform to and oppose the conditions that limit their freedom.

In order to understand women in a society that limits their choices, we must begin with the assumption that what they think may not always be reflected in what they do and how they act. Studying women's behaviour alone gives an incomplete picture of their lives, and the missing aspect may be the most interesting and informative. Therefore, we must also study consciousness, women's sphere of greatest freedom, and go behind the veil of outwardly conforming activity to understand what particular behaviour means to women and, reciprocally, how women's behaviour affects their consciousness and activity.

### **Sudan: A Geo-Political Background**

Sudan, the home of Nahid Toubia and the place where she was nurtured and brought up, is divided between the north and the south over issues of religion, political structures, culture and race, differences that have greatly intensified since the military coup of 1989. In that year, the series of ineffective coalition governments led by Prime Minister Sadiq al-Mahdi were finally brought to an abrupt end when army elements led by General Omar Hassan Ahmed al-Bashir took power. The subsequent desire to enhance Muslim rule and practices in the south of Sudan led to outright rebellion there.

Women constitute approximately 15.6 million out of a total Sudanese population of 31.6 million. Women play a key role in the economic field, with females constituting 26.5 percent of the labour force. This is up from only about seven percent of the work force in the 1960s. Article 21 of Sudan's 1998 constitution clearly states that all Sudanese are equal before the law without discrimination as to sex or race. All labour legislation is based on complete equality between men and women. The 1998 Constitution reiterated and reinforced earlier equal employment opportunities clauses in the 1973 constitution. These provisions were reinforced in the 1997 Public Service Act, which provided for equal wages for equal employment, open competition based on competence, qualifications and experience, equal pension rights and equality regarding leave and holidays.

In November 2000, the president decreed that women would receive two years paid maternity leave. While most women work within the agricultural sector, a large percentage also work as professionals, serving as ambassadors, university professors, doctors, lawyers, engineers, senior army officers, journalists and teachers. There are, for example, women major-generals in the police. In 1996, the United Nations Economic Commission for Africa published a book entitled 'Africa's Roll of Distinguished Daughters'. Of the fifty African women listed, ten were Sudanese; and these included academics, lawyers, journalists and psychologists. Politically too, women are well represented.

Sudanese women became involved in national politics from the mid-1940s onwards and secured the right to vote in 1953. In Sudan, women have an unfettered right to elect and be elected in presidential, federal, state and local elections. To offset innate conservatism and to ensure female participation in political life, there is a quota system guaranteeing female seats and participation in federal and state

legislatures. A quarter of all federal parliamentary seats are reserved for women. Women are also ensured a minimum of ten percent of seats in all other elected local bodies. Women have chaired select committees within the federal National Assembly, and there have been women ministers in Sudanese governments since the early 1970s. There are several women ministers in the present government, holding portfolios such as health, social welfare, public service and manpower and cabinet affairs. In 2000, the Sudanese President appointed a cabinet-level Advisor on Women's Affairs. There is also an advisor within the Southern States Coordinating Council. There have been, and are presently, women ministers within several of the state governments. There is women's policy unit within the Ministry of Social Planning, drawing up national policies and plans for women's development.

In the field of education, which is the linchpin of development, the state has adopted universal and compulsory primary education and achieved remarkable success in the field of general education, where both girls and boys are enjoined to be in school with government support. The percentage of female intake in the period 1990-1998 increased by 22 percent, whereas the boy's intake increased 8 percent. Sudan witnessed a tremendous increase in girls' enrolment in secondary schools to 75 percent during the period 1993-1998. The state has also given considerable recognition to higher education and special attention to science and technology fields. The percentage of female students in universities increased to 62 percent by 1999, compared with 47.2 percent in the year 1995.

### **Nahid Toubia's Education**

Nahid went to nursery, primary and intermediate school at a local church school that, at the time, was apparently called the American Mission, but was later named the Evangelical School for Girls. She then decided to change from the private school system, which gave very light education for girls that did not qualify them for university, to the state system, which gave girls a serious education. She sat the state exams and was admitted in Khartoum Secondary School for Girls, at the time one of the two top girls' schools in the country (Personal Interview, 2003).

Nahid joined the University of Khartoum in 1968 for her first year in pre-medical science. Between 1969 and 1974, she spent five years in medical school at the University of Cairo's Qasr el Aini medical school, the oldest and most prestigious medical school in Egypt. She graduated as a medical doctor in 1974 at the age of 23. After practical training at Khartoum Teaching Hospital, she went to England for a degree in surgery. She received her Fellowship of the Royal College of Surgeon of England (FRCS) in 1981. Nahid was 29 years when she became the first woman surgeon in Sudan. In 1985, she started a private clinic in Khartoum where she practised general and pediatrics surgery and was very successful in the private as well as the public system. After 15 years of practising surgery, during which she went into pediatric surgery and became the head of the Department of Pediatric Surgery at Khartoum Teaching Hospital, Nahid left the clinical field and returned to

the University of London for a degree in Health Planning and Financing, which she obtained in 1989.

Nahid explains that she was prompted to go into the sciences as a result of hard work and being what she calls 'inquisitive'. She says:

I always had an inquisitive mind, but I never liked the abstractness of Maths. In high school, I was excellent in biology and English. There were two tracks; one had to choose either sciences or arts and humanities. Science was for the smart pupils, and arts and humanities were for the less smart and for girls who just wanted to have an education but not a career. I never contemplated going into arts. My self-image was of a smart and a professional person (Personal Interview, 2003).

From my interview with her, it became clear that Nahid's mother always had a very high opinion of doctors. She saw the profession as the ultimate in human service and had a family friend who was a model of a caring doctor and was her idol. Nahid was her mother's daughter and wanted to be her idol, so she did not have any family problem in choosing what she wanted. Her family was very liberal for their time. Her father believed girls should be allowed the same freedoms as boys. In fact, sometimes he was harsher to her eldest brother, as he thought boys were more likely to be led astray. Her mother believed girls and women could do anything they set their mind to. She was also the handy person in the house and fixed everything from dolls to leaking taps. Nahid was named after a well-known Egyptian suffragette from the women's movement of that time, Nahid Sirri (Personal Interview, 2003).

The only problem Nahid encountered in choosing science is that the intermediate school she attended was a church-affiliated school whose standards in maths and sciences were not very high. She therefore realised that, if she continued in that school, she would never have a chance of going to the university. She was only 12 years old, but she made her decision to change from that school. The decision meant that she had to study alone and take extra maths lessons to sit for the state exams. Her family was supportive of whatever she wanted. They did not interfere but trusted her judgment, as she was a very serious child. She sat for the exams, passed and went on to the best government school for girls, where she was able to get the education that got her admitted in the university, in a science faculty (Personal Interview, 2003).

### **From Classroom Science to Pragmatic Science**

Nahid's career has been very much concerned with reproductive health, especially concerning female genital mutilation and women's human reproductive and sexual rights. She has been on the editorial committees of *Health and Human Rights*, a journal of the Harvard School of Public Health, *Reproductive Health Matters*, an independent journal published in London, a member of DAWN (Development Alternatives with Women for a new Era), a member of the advisory committees of the Global Fund for Women and the Tropical Disease Programme (Edna McConnell Clark Foundation), a vice-chair of the advisory committee of the Women's Rights Project of Human Rights Watch as well as a member of the board of directors of

Human Rights Watch and a member of the board of trustees of Association for Voluntary Surgical Contraception (AVCS). Some of her many publications include *Caring for Women With Circumcision: A Technical Manual for Health Care Providers* (RAINBO 1999a), *Learning About Social Change: A Research and Evaluation Guidebook, Using Female Circumcision as a Case Study* (RAINBO 1999b), *Sexual Coercion and the Reproductive Health of Women* (Population Council 1995), *World's Women: Trends and Statistics* (United Nations 1995) and *Arab Women: A Profile of Diversity and Change* (co-authored with Amira Bahyeldin, Nadia Hijab, and Heba Abdel Latif) (Population Council 1994).

Nahid has translated her scientific prowess into practical work by participating in the formation of RAINBO, an international NGO working on issues at the intersection of health and human rights of women. She also established the AMANITARE programme, which evolved from the need for a coordinated pan-African effort to consolidate the skills, knowledge and institutional resources of groups and individuals active in the field of sexual and reproductive health, gender equality, and women's rights. It is an effort to facilitate the translation of the principles embodied in these agreements into the daily realities of African women and girls. It aims to create a better political, economic and social environment to enable African women and girls to enjoy their lives without fear of control or coercion because of their sexuality or reproductive potential.

Nahid has also translated her applied scientific knowledge to the development of African youth. This is well illustrated in her fight against clitodectomy or Female Genital Mutilation (FGM). She has published and written many articles on the subject. In this section, I will try to highlight her views on female circumcision. According to Nahid, FGM is practised in twenty-eight African countries on anywhere from 5 to 95 percent of those countries' young women. Asked why she had chosen to approach FGM primarily as a human rights violation, rather than as a threat to women's health, she replied:

At RAINBO, the health and human rights aspects go hand in hand. For instance, by working on it solely as a health issue, it loses a very important point. If the girl experiences no health complications and the procedure went very smoothly, we still have to face the fact that a major human rights violation has occurred. A person, a girl, has had a very sensitive part of her genitalia permanently removed and she has had no real power to stop it.

Viewing FGM as a rights issue links it to its core problem, that is, the status of women. Nahid argues that men do not go through anything similar, such as the amputation of the penis, because they happen to be in positions of power. She therefore argues that seeing FGM in a rights framework is getting to the core of the *solution*, as well as the problem. As to why parents do not resist the practice, she observes that parents have to live as social beings and conform to the social norms of their environment. We all do a lot to be accepted in our societies, and the more dependent we are on that society for our survival, the more willing we are to conform to that society's rules.

In Nahid's thinking, even women themselves have participated in perpetuating patriarchy. For hundreds of years, most women in most parts of the world have accepted their second-class status. International actors play a major role at this point because they have the funds and the political power to influence government policy and to help NGOs technically and financially. But they are also limited. Social change can only happen from within, and no outsider, not even other NGOs from a neighboring community, can single-handedly affect change in a social environment where they are the outsiders.

Talking about international law, but, when you have individual girls who have been circumcised and they want some redress, or their parents want redress, you have to give them a tool by which to get it:

I cannot emphasize enough that the only way FGM will be abandoned is through fundamental social change. Laws and policies are a factor in the dynamic of social change. You inform people of the harmful effects of FGM. You appeal to their concern for their daughters. And in the push and pull of change versus status quo, the law becomes a pushing force. It gives support to those who want to change, especially those less powerful in society (Personal Interview, 2003).

Such laws, she notes, have only been around for a very short period of time, nor have we invested enough in research. Thus, anything we say now is impressionistic and anecdotal. The effect of a law varies tremendously depending on the social and political context. If a law is passed in a country where there has been a lot of activism to prepare the ground, it may have a very different effect than in a place where the issue has barely been mentioned. Regarding the effect of such laws, Nahid says, 'it is difficult to assess but our hope is that these laws will empower women and girls and not increase their vulnerability'. Thus, she recommends that the laws should be geared toward practitioners, not toward the girl child or the parents. Commenting on the short-term and long-term complications and implications of FGM, she argues:

It all depends, of course. People like to exaggerate, this sort of 'Oooh! Ahhh!' of the bleeding, the infection, this, that. Of course, all that happens. It depends on the degree of cutting. But there are also the psychological problems of children who might be traumatised by it, although not all children are traumatised by it. Sometimes, they perceive it as a positive experience, even though they somehow suppress their fear of it. It's quite a complex psychological process. Also, its effects on sexuality tend to vary quite a bit, depending on the severity and also the social constructs of sexuality in any particular place.

Nahid Toubia thus sees FGM within the framework of its cultural significance. Although she admits that, 'if you ask people immediately why they do it, most people would just tell you, 'Well, it's just a tradition, we have not thought about why we do it'', her view is that the practice is responsible for the suppression of women's sexuality or interfering with it in some way. All in all, Nahid's scholarly work and engagement with societal problems portray her as a strong role model for African girls.

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