Masters of Sex and Sexology

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What might seem like an excuse for screening another controversial and polemic series with high-voltage sex appeal is actually one of the best reflections on scientific method to appear on the small screen. Based on the biography Thomas Maier wrote on William Masters and Virginia Johnson, the couple who convulsed the academic sphere in the nineteen-fifties and sixties with their studies on the human sexual response cycle, this series premiered in 2013 on cable network Showtime (Dexter, Homeland). It is an accurate and truthful retelling partially thanks to the chemistry between its leading actors, Michael Sheen and Lizzy Caplan.

"In 1956, a national renowned fertility specialist met a former nightclub singer. Ten years later, they published a scientific study, which revolutionized our understanding of human sexuality."

Opening with these two sentences, this series set in the fifties –the first scene offers us a gala dinner with fabulous fifties automobiles, fifties dresses and fifties music– has us ordering in a pizza to remain glued to the sofa for hours on end. But Masters of Sex, furthermore, has an added value that makes it even more interesting from my viewpoint: it is a real story. And one that is quite true to life. Because Masters' and Johnson's story was essentially the one the series tells.

How did it all start?

On one hand, we have Virginia Johnson, 32, thrice-divorced, with two kids from her last marriage to a rocker, who had devoted her life to singing until the year before. She is now working as a secretary at Washington University School of Medicine, in Saint Louis, Missouri, filling in medical insurance. She has studies in music and has begun studying sociology at the University.

Meanwhile, Doctor William H. Masters, nearly 40, an obstetrician at the same hospital, after more than ten years of an impeccable medical career, commits the indiscretion of becoming interested in human sexual response. Studies in obstetrics in this period centered on the birth of children, avoiding the process by which they were conceived. He had patients who asked him what they could do if they felt pain during coitus, if they did not reach orgasm, or felt no pleasure. Frustrated because his best answer was to "take a lover", "get used to it", or "change your husband", Doctor Masters realized there was a need to shed light on sexuality. The fact he had worked with one of Kinsey's disciples at the start of his career no doubt increased his interest in this field. Kinsey had also revolutionized the history of sexuality several years before Masters and Johnson. Readers may know of Kinsey's studies, or have seen the film based on his life and work, entitled *Kinsey,* containing a lot of similarities to the series Masters of Sex. It likewise conveys a clear idea of the developmental extent of the history of sexuality at the time. Yet for now let us return to Doctor Masters, who is trying to begin studying human sexual response.

Throughout medicine's history, forbidden territories have existed. It is as if humanity needed to reserve part of the body for the realm of mystery, the unknown, even the magical. Within this portion, in this unpredictable space, we store everything we do not know, or cannot properly explain.

First it was the brain, then the heart. In the US in the nineteen-fifties, it was the turn of sex. (Allow me a brief parenthesis: in an article on migraines by the neurologist Arturo Goicoechea, I recently read that this magical territory is once again the brain. Naturally, sex is not it, but the brain? Is it a magical territory? It seems so. It seems that it is helpful for us to be able to make statements such as "We only use 10% of our mental capacity", or "We know practically nothing of the brain", because we allow space for the unknown, the unexplainable and the unhoped for –in short, for magic. Close brackets.) We said that in the US of the time, this forbidden territory was sex. It did not exist, and almost could not be mentioned. Doctor Masters was obliged to work with prostitutes because he had no other option. In the second scene of the series, we see him shut in a cupboard spying on a prostitute with a client, measuring the client's sexual response, his timer in his hand. Working with prostitutes caused many logistical problems, aside from the fact that a sexual relationship between a prostitute and her client is not representative of sexual relations in general. Furthermore, most of them were affected by chronic pelvic congestion, a factor that also skewed the results. Finally, after much insistence, the doctor manages to convince Willard Allen, his department boss at Washington University, to include his study in the university. Allen warns him that it could be professional suicide, but the project goes ahead.

Doctor Masters needs an assistant and his secretary does not fit the right profile. In the first episode, we see her dressed in a green suit conveying that hard-to-describe air –one having nothing to do with beauty– which certain women give off, as if they have begun to distance themselves from life, from pleasure. Doctor Masters' assistant must be a special woman. He knows that no female doctor would accept the position because it would compromise her reputation and career. This is when Virginia appears in his office as if by magic, deploying all her sensuality. They discuss the job position, their ex-husbands, and sex. "Before you leave, tell me, why would a woman fake an orgasm?". "To get a man to climax quickly. Usually so the woman can get back to whatever it is she'd rather be doing." Virginia has the experience, the broadness of mind and the frankness that Doctor Masters needs. Thus their collaboration begins –though Virginia has practically no university studies nor the slightest knowledge of physiology– which will continue into the 1990s, almost to the end of both their lives.

What methodologies does the scientific study use? In general, case studies, surveys, direct observation and the experimental method. So as Alfred Kinsey used surveys, Masters and Johnson use direct observation. And they do not have it easy. Because observing the digestion process of somebody who has eaten an apple, for example, is not the same as observing how this same subject responds to sexual stimulation. In the series, we see how their study causes an uproar in the university hospital. We all know that something interesting is going on in that office, but nobody knows exactly what. We even see an attractive young doctor auscultating the wall with his stethoscope. Here, in this difficult territory, is where Doctor Masters and Virginia Johnson discover that their natures, their skills and working methods complement each other so as to form a formidable team. All the aspects of Virginia's character listed above are added to those of Masters: he is obsessive, demanding, rigorous, meticulous, not greatly enamored of social relations, of few words and very serious, though one should not forget his subtle sense of humor. These different natures of Masters and Johnson are very well represented in the series, except, in my opinion, in one respect. In the character of Doctor Masters that Michael Sheen plays, there is a toughness that I am not sure the real person displayed. The strict and serious demeanor of a man of few words does not imply such sometimes unpleasant toughness, which I have not found in any biography on William H. Masters. They rather speak of his great humanity and warm capacity for understanding. However, except for this facet, both characters are well represented.

Masters and Johnson's importance in the history of sexology

Was their work truly as relevant as the series depicts? Yes, it was. Absolutely. Their studies re-

vealed a clear before-and-after situation in the study of human sexuality. Furthermore, they laid the foundations for the sexual revolution of the sixties. To start with, they managed to collect highly accurate information on the physiological changes in the human sexual response cycle. Moreover, they defined these phases: excitement, plateau, orgasm and resolution (Fig. 1). All these data were key in order to profoundly understand the human sexual response cycle, especially to be able to treat possible dysfunctions. Let us examine these phases in detail.

In the first, excitement, we observe an increase in heart rate and temperature. Vasocongestion of the pelvic area means that men experience an erection and in women, the vagina expands and is lubricated. Breasts and nipples also become larger.

When the excitement reaches its peak, all the changes are maintained at this highest level. This is the phase known as plateau, characterized by an intense feeling of pleasure. Though the perception is one of calm, in this phase muscular tension increases and this is when the sex flush occurs (some areas of the body, normally the chest and cheeks, redden). Secretion of vaginal fluid increases in women and men tend to feel an intense urge to ejaculate. This phase's duration is highly variable. Some couples extend it to enjoy this interval of pleasure for as long as they can (moving very slowly, stopping for a few seconds, using gentler stimulation, or changing position, etc.). In general, women have the capability to extend this period for longer than men.

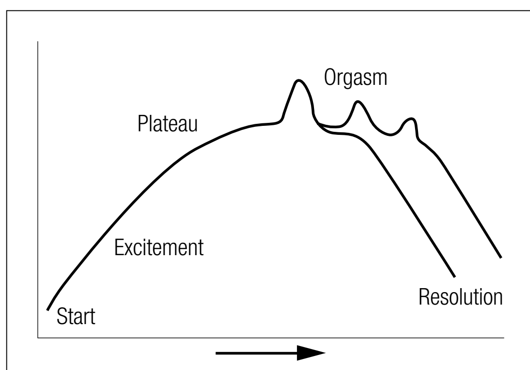

Figure 1. Diagram of the human sexual response cycle.

Now muscular tension, blood pressure, heart rate and breathing accelerate more and more until orgasm is reached. Tension has reached its peak and is freed with this explosion. Involuntary contractions occur of the man's penis, the woman's vagina, and the anal sphincter in both. Men ejaculate –although not always! It is not so common, but orgasm may occur without ejaculation in men. In women it is the opposite: normally visible ejaculation does not occur, though in some cases it does, composed of a mixture of urine and vaginal fluids.

It seems that female ejaculation is currently in fashion in pornography, however, be warned: most female ejaculation in porn videos is false: the actresses use tricks to simulate ejaculation. It is important to know this because such fashions can cause a great deal of sexual frustration in couples who think that certain practices or phenomena are common, so they feel obligated to try and replicate them. In fact, yes, some women experience ejaculation, but they are definitely not the majority. Furthermore, these ejaculations are substantially more modest than those we see on-screen. Many sexual problems arise from preconceptions or false ideas we have in our minds about sexuality. So in Masters and Johnson's time, such false ideas generally arose from a lack of information. Nowadays, we suffer from the opposite: we have vast amounts of sexual information; the problems come from not understanding or digesting it well. Pornography is a source of pleasure if used well: it can liven up our sex life with just a click. The danger is forming a mistaken idea of sexuality. This occurs often, because the models in pornography, though exciting to watch, are generally far from authentic sexuality.

But let us return to the orgasm. As well as the physical response, an emotional response also occurs. The bond between the couple increases through the release of certain hormones and through their union, which always signifies shared pleasure. This huge emotional release may be experienced as sobbing, crying out, or even laughter. Each of us expresses it in our own way. Both men and women can experience more than one orgasm in every sexual relation. The male, if he has ejaculated, needs what is called

a refractory period (a period of rest before getting excited again). Women are fortunate in never requiring this; they can have one orgasm after another. After the orgasm (or orgasms), little by little normal physical and psychological activity is reestablished: this is the resolution phase. Vital signs recover their equilibrium and a sensation of relaxation and general wellbeing takes over.

Masters and Johnson defined these four phases –excitement, plateau, orgasm and resolution– but, in fact, they omitted one, the first and essential phase: desire. Without desire, the sexual response cannot begin. Sexologist Hellen Kaplan added it to the list in 1979, though, in fact, Masters and Johnson had already spoken of it. They specifically defend a concept of sexuality based on a couple's relationship, a couple who communicate, far removed from the purely mechanical exercise that sexual relations can sometimes become, a concept including desire. So, despite not including it in their list, it can be inferred between the lines, especially in their later studies. Despite all this, however, the merit of having correctly included it in the phases of sexual excitement lies with Kaplan.

In men, excitement generally occurs faster, but the duration of the plateau is shorter and moreover drops sharply. In women, excitement occurs more gradually and is maintained for longer, but they also have the capacity to extend the plateau and their orgasms. Furthermore, their descent is gradual (Fig. 1).

All these data were significant to fully understand the human sexual response cycle and, above all, to treat possible dysfunctions. I say "above all" because Masters and Johnson's most important contribution to the history of sexology was, without a doubt, their sex therapy. In fact, most of today's effective sex therapies were created through continuing Masters and Johnson's pioneering work. Their fundamental ideas remain 100% valid and their proposal continues to be effective, while being adapted to today's needs and to new contributions and innovations.

It is important to clarify that sexual dysfunctions, the object of the therapy Masters and Johnson proposed, are just a small part of a broad spectrum of possible problems related to sex. The list would be extremely long. We could mention: patterns of problematic behavior (exhibitionism, pedophilia, sexual aggression, compulsive sexual behavior, risky behavior, etc.); sexual identity problems; syndromes related to violence and victimization (due to sexual abuse in childhood, sexual harassment or sexual violence, sexual phobias, etc.); syndromes related to reproduction (due to sterility, unwanted pregnancies, abortions, etc.); and sexually transmitted infections, among many other problems and conditions. Some of these disorders can be treated through therapy, though not all. One must always seek a suitable professional for each case, and often an interdisciplinary approach is required.

Leaving aside this spectrum of diverse problems related to sex, I want to focus on the aim of Masters and Johnson's therapy: sexual dysfunctions. We speak of sexual dysfunction when difficulty exists during any phase of an individual's sexual response (desire, excitement, plateau, orgasm or resolution) and this sexual response significantly deteriorates. This is a weak definition, but to date we do not have a better one.

Classic sexology distinguishes between male and female sexual dysfunctions (Table 1). Al-

Table 1. Sexual dysfunctions.

Women	Men
General sexual dysfunction (frigidity)	Erectile dysfunction (impotence)
Vaginismus	Premature ejaculation
Orgasmic dysfunction	Delayed ejaculation
	Ejaculatory incompetence
	Ejaculation without orgasm

though this classification is already outdated, it continues to be used, and therefore is useful to know. So traditionally, women experience three sexual dysfunctions: general sexual dysfunction refers to a lack of desire or excitement, and to the incapability of feeling pleasure; vaginismus is an involuntary contraction of the vagina that makes penetration impossible; orgasmic dysfunction is the inability to have orgasms. Where men are concerned, five dysfunctions are described: erectile dysfunction is an incapability or difficulty of maintaining an erection; premature ejaculation is an early ejaculation, shortly after beginning penetration, while delayed ejaculation is the opposite phenomenon; lastly, there are men who can have an orgasm but cannot ejaculate (ejaculatory incompetence) and the opposite, men who can ejaculate but not experience an orgasm.

At first sight, sexual dysfunction in men and in women seem very different, but in fact this is not so. Modern sexual research proposes a fresh, much more accurate classification of dysfunctions. We now understand that, since sexual response in men and women is practically identical, so are their dysfunctions (Table 2).

Current sexology, then, explains that, though expressed differently, sexual dysfunctions in men and women are the same. They may be related to the lack of a bodily response at the moment of excitement (problems of tumescence), with the orgasm, or else with pain during sexual relations. It is useful to note that the incapacity to achieve or maintain an erection and the absence of vaginal lubrication have exactly the same origin. Each expression of a dysfunction has its peculiarities in each sex and each person, of course, but it is important to understand that common origin. Only vaginismus is an exclusively female dysfunction, in its own category.

It goes without saying that where sexual health ends and dysfunctions begin is highly subjective. At what point does a man, a woman, or a couple decide that his orgasm occurs too soon? It may be that a specific time for one couple signifies a problem, but not for another. At what point does her orgasm occur too late? The answer is the same. One couple will seek solutions and will adapt; while another will experience it as a problem that affects their sex life. Often there is a clear problem, such as vaginismus, or the lack of an erection stopping penetration, but things are not always so obvious. Sex can be enjoyed even without an erection. In sexology, we understand that each couple is a world unto themselves and we are simply here to help people enjoy their sexuality. Above all, nobody should suffer as a result

Table 2.

- Disorders of sexual desire: alike in both sexes.
- Problems of tumescence:
  - In women: these occur as a lack of vaginal lubrication.
  - In men: these occur as a lack of penile erection.
- Problems of orgasm:
  - Depending on the time of appearance:
    - Shortly after commencing coitus:
      - In women this is not considered a problem.
      - In men it is considered a dysfunction if it is too early in his, her or both of their opinions.
    - A long time after commencing coitus:
      - In men this is not considered a problem.
      - In women it is considered a dysfunction if it is too late in his, her or both of their opinions.
  - Absence of orgasm: alike in both sexes.
- Disorders of sexual pain: alike in both sexes.
- Vaginismus: a disorder exclusive to women.

of their sex life. Often consultations are solved by an hour's conversation in which some false belief is discarded. Sometimes it is that easy.

Until Masters and Johnson, sexual problems were classified as medicine or psychiatry. In other words; problems were classed as purely physiological or as mental health disorders. Attempts were made to resolve the former with medical treatments, and the latter basically through psychoanalysis, without very effective results. What Masters and Johnson did was to give sexual difficulties a human and especially a relational dimension. They understood that a sexual problem was a problem of the couple, not just one person. And that is how they treated it: the therapeutic object was the couple's relationship. To give an example: until that time, if a man had problems achieving an erection, physical causes were sought within medicine; or else he was treated by psychoanalysis to discover the origin of his impotence. After Masters and Johnson, such erectile dysfunction was considered a problem within the couple's relationship: perhaps the man felt pressured, was scared of failure, or of losing his partner. Or any other reason within the relationship sphere might be considered (naturally, once having eliminated any medical problems). This change of approach signified a revolution in treating sexual dysfunction.

The fact that their therapy contained no trace of dogmatism or arrogance was a key factor in its effectiveness. Because sex therapy has a pitfall: what is normal, natural or healthy sexuality? Who establishes this? Is it possible for scientific criteria to be combined with cultural ones? Is it possible that the therapist unknowingly functions according to his or her morality?

Let us take the example of masturbation throughout history. In ancient Rome, the renowned Greek doctor, Aelius Galenus, recommended that therapists masturbate their female patients to recover their health. Yet in the eighteenth century, the Swiss doctor Samuel Tissot, though brilliant in other areas, was convinced that masturbation caused very serious illnesses. In the nineteenth century, many women underwent an ablation of the clitoris (as well as in Europe and in America until very recently) to eliminate the habit of masturbation. In the early twentieth century, Wilhelm Reich defended onanism to help recover natural sexual function. It also seems quite shocking that, following Galenus's recommendations, some of his psychoanalytical colleagues in Vienna masturbated their female patients in therapy sessions. This type of therapy is currently prohibited by codes of ethics. What all of these examples point to is that often, what doctors or therapists call natural is, in fact, a value concealed by a supposed scientific truth. It is very difficult –perhaps impossible– to establish what constitutes "natural sexuality" according to scientific criteria, and almost always ideological, moral or cultural criteria come into play.

One sensational example of the connections between science and morality is the following. It occurred in 1973 and was the greatest success in medicine, almost a miracle: millions of people were cured at a stroke, one afternoon. How? They simply chose to delete homosexuality from the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), which describes mental disorders. Its editions are updated every several years, and although it has been highly criticized because it medicalizes behaviors that perhaps should not be medicalized, such as homosexuality in its time, it is the manual that psychiatrists and psychologists currently use. Nowadays, homosexuality is no longer a perversion, but it was. Who can assure us that what we currently think of as perversions (or paraphilias, as former perversions are called) will not be included among natural sexual behaviors in a few years? It will depend on a combination of the science, culture and morality of the period. In fact, this is simply a conflict between the individual and society. The sex therapist uses training, information and common sense to find the exact point, the best equilibrium possible.

Masters and Johnson developed a sex therapy that strives to put aside moral prejudices to view the couple exactly as they are and understand each sexual problem within their circumstances, with huge amounts of common sense.

Yet although Masters and Johnson managed to take sexual dysfunctions out of the context of medicine and psychiatry, it is clear they did

not arrive there by themselves. Several researchers prior to them began to lay down the bases of what would become modern sexology. Possibly the most important of them was Alfred C. Kinsey, the first researcher to speak of sexual habits in scientific terms. This was an almost revolutionary act. He conducted questionnaires with thousands of men and women, each containing hundreds of questions. The interviewers were very well selected, even knowing the questions by heart, and the questionnaires were well designed, so that the research was thoroughly valid. His results brought to light habits that supposedly did not exist. For example, sexual encounters outside marriage were found to be frequent, masturbation was quite common and many people had had occasional homosexual experiences. One of Kinsey's successes was to create a scale for classifying one's degree of heterosexuality versus homosexuality. This fact was revolutionary, because until that time the population were classed as homosexual or heterosexual. However, Kinsey's research showed that this division is not possible: sexual orientation is a *continuum* that stretches from pure heterosexuality to pure homosexuality. Each and every one of us is situated at some point on this continuum. The Kinsey Scale (Fig. 2) is still used in some questionnaires on sexuality, and all the information in his surveys, published in two volumes, is very valuable.

After Masters and Johnson, and above all from the sexual revolution onward, sexuality became normalized and studies have become common (*Durex Sex Survey*, *Encuesta de salud y hábitos sexuales* from the Spanish National Institute of Statistics, studies by the Spanish Federation of Sexology Societies, etc.). Perhaps the last study that constituted a social change was Shere Hite's, published in the sixties, which builds on Masters and Johnson's and Kinsey's studies. Hite conducted thousands of questionnaires on attitudes and sexual behaviors in men and women. The Hite Report was criticized for a lack of statistical and data processing accuracy. In fact, this is true, because more than an analysis it is a compendium of stories. Yet it is likewise hugely important, because it is an extremely valuable manner of explaining sexuality and countering myths and taboos.

"In order to function sexually, a person needs only a reasonable state of general good health and an interesting and interested partner."

As mentioned, Masters and Johnson's work began to lay the foundations for the sexual revolution. It goes without saying that the sexual revolution meant huge freedom for men and women (above all the latter). One could speak of equality of the sexes, the appearance of the contraceptive pill and, in many countries, free abortion. With the sexual revolution, different types of sexuality were normalized, including extramarital relations, children born out of wedlock, homosexual or single-parent families, and even same-sex marriage. All this was extremely necessary and was fabulous. However, there is a large "but". The sexual revolution stems from the freedom to have sexual relationships with whomever we want, and that is good, but we have reached a point that was unforeseen in the original sexual liberation: the

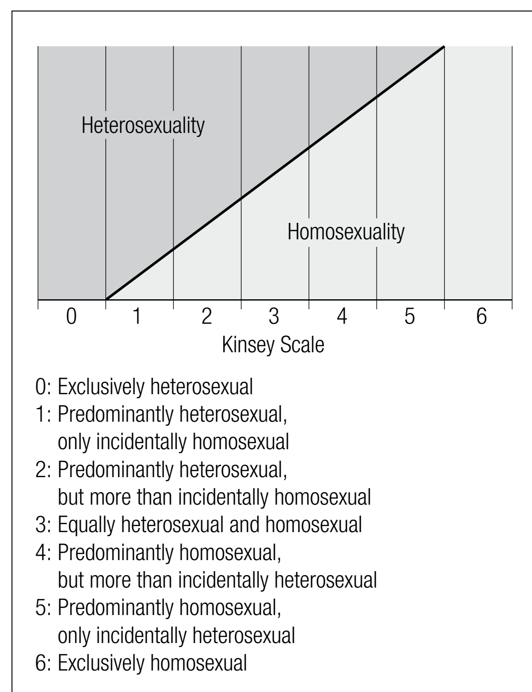

Figure 2. Kinsey Scale.

trivialization of sexual relations. Sex is an act of deep and intimate communication that has physical and emotional consequences. Removing such importance from sex and turning it into a mere act of physical release is causing –paradoxically– the same problems that stem from being forced to have sexual relations in a marriage we do not want to be part of.

Masters and Johnson, in their later works, spoke of that intimate connection, of the profound dialog between two bodies that transcends mere physical contact. They themselves experienced such a communion with each other. And they chose each other, even while Doctor Masters was still married. One reading is that the quest for a sexuality that goes beyond a physical release can be interpreted as a conservative, outdated, almost puritanical stance. I believe it is the opposite: it now seems to be the more revolutionary act. Sexual liberation has provided the very freedom to do what we want. Now we must choose well. This does not necessarily mean choosing a partner to get married. We can choose to have sexual relations with someone of the same sex, with two people, or simply not have them with anybody. Why not? We can do what we wish. But it must have some purpose and, above all, make us feel good. Nowadays, we see many women in the consulting room who believed in this half-baked sexual revolution along Sex and the City lines, who do not choose their sexual partners well because they never learned to discriminate in that sense. The result (naturally, avoiding moral judgment of any kind) is that they feel bad. People are capable of experiencing vast sexual pleasure if the partner we are with (in whatever form, whether a marriage, friendship, de-facto, or casual sex partner) acknowledges us. If they recognize us. If we like them and they like us.

Doctor Masters, at the end of his life, said: “In order to function sexually, a person needs only a reasonable state of general good health and an interesting and interested partner”.

What happened to Masters and Johnson?

At the time of writing this chapter, two seasons of Masters of Sex have been screened while a third is in production. Nevertheless, since we know Masters’ and Johnson’s real lives, I can tell you that (spoiler alert!) he finally got divorced from Libby, with whom he had three children. Doctor Masters and Virginia Johnson were married in 1971. The clinic which they had opened in Saint Louis a year earlier became the Masters and Johnson Institute in 1978. They worked together until 1992. Virginia, at 60 years old, keen to enjoy her final years, her family life and to travel, became weary of a husband who spent almost his entire day locked in his office working. In 1993, they divorced. A year later, William, ill with Parkinson’s, retired and remarried, this time to an old flame from his childhood. The Masters and Johnson Institute closed its doors in 1994, though Virginia kept working almost right up to her death.

Doctor William H. Masters died in 2001, and Virginia Johnson in 2013.

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