

No one has ever observed the sex act as closely as Dr. William Masters and his associate Virginia Johnson.

Their research methods are startling, their findings significant—and the book they have written has become a bombshell of a best seller



■ Dr. William H. Masters, 50, is bald, stocky, has sharp blue eyes, and an absolutely straightforward manner of delivering his opinions. He looks like the pugnacious, self-assertive neighborhood kid grown up; a man who has discovered that he can take care of himself and doesn't give much of a damn one way or another what the world thinks of him.

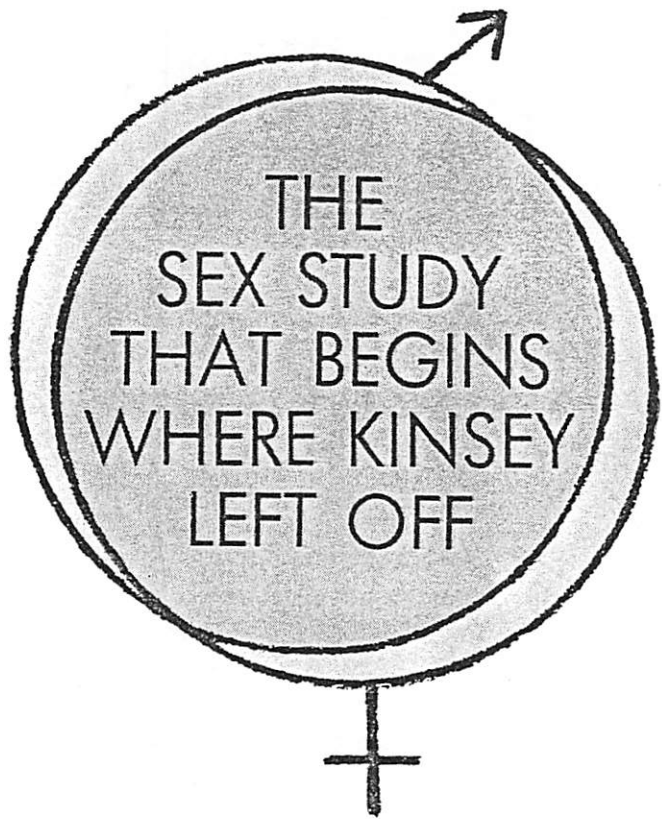
As it happens, Masters has indeed learned how to take care of himself. In fact, in the light of the storm of interest his work has created, he may very well be the bravest man in America.

As Dr. William Howells Masters of Washington University Medical School in St. Louis, he has devoted the past 12 years of his life to studying men and women engaged in intercourse and other forms of sexual activity. Not only has he observed hundreds of people during thousands of sexual acts but, with specially designed movie equipment, he has photographed sexual activity at close range—even inside the female body. In sum, Doctor Masters has probably observed more physical intimacy firsthand than anyone in medicine or out and, as a result, he understands more about the physiology of sexual response than anyone has ever known. This past April his work culminated in the publication of *Human Sexual Response* (Little, Brown and Company—\$10). It has become a bombshell best seller.

Perhaps paradoxically, the book is dull in appearance, contains 366 pages of close-packed text, and chapter headings such as "Myotonia in Sexual Response," and "The Uterus: Physiologic and Clinical Considerations." Within the weighty language, however, is a wealth of new information on how humans—male and female—behave during the sex act. The book covers every portion of the anatomy in the minutest detail, from a "sex flush" which appears on the female face during excitement to the involuntary muscular contraction of the toes.

Perhaps more important than the observation of clinical facts, Masters' work indicates that human sex life may be quite different from what biology teachers and the marriage manuals have been teaching for years. For example, he has discovered: that a good sex life is possible for octogenarians; that some women have a "lethal factor" which kills sperm on contact; that a six-week period of abstinence from intercourse before and after childbirth is probably nonsense.

Thus, the major importance of *Human Sexual Response* lies in the use to which Masters' carefully collected information will be put to deal with a wide variety of marital problems. Other doctors already are saying that Masters' work can be expected to help the infertile have children and the overfertile improve contraceptive techniques. Of perhaps equal significance, Masters has developed new techniques for



BY JAMES LINCOLN COLLIER



"curing" frigidity, impotence and unsatisfactory sexual performance.

It was expected that the book might cause a stir when it came out, but nobody, including the publishers, was prepared for the excitement which followed. Not only did medical magazines respond to *Response* with lengthy reviews, but wire services treated its publication as major news and such austere papers as *The New York Times* and the *Wall Street Journal* gave it major headlines.

Says Masters' editor at Little, Brown: "It's been sensational. We've been going crazy around here. The first printing sold out in three days. We ordered a second printing and then a third before the book had been out a week. We've had requests for rights to the book from over 500 foreign publishers. Their letters have been incredible, actually begging us for the rights. Astonishingly, we've even had a bona fide offer for the movie rights."

As a matter of policy, Little, Brown will advertise the book only in medical and technical journals. Nonetheless, it seems likely that the book will outsell the first Kinsey report (300,000 copies). Little, Brown won't tell how many copies of the Masters report it has printed, but an educated guess is 100,000 in the first week alone. It was not surprising then that within a month after publication, *Human Sexual Response*, was on the national best-seller lists.

While Masters publicly contends that he is no different from hundreds of other researchers laboring in the obscurity of medical laboratories throughout the country—and a number of his fellow scientists agree—the fact remains such sex research is an explosive and emotional subject. It is technically illegal under the laws of the State of Missouri, immoral according to the tenets of huge segments of the American populace and improper according to some members of Doctor Masters' own profession.

Research into sex hardly began with Masters or his most recent predecessor, Dr. Alfred Kinsey. As far back as anyone wants to go, man has been fascinated by sex and what it does to him. Scientists, philosophers, poets and clergymen have asked the same questions for thousands of years. Why is a man so impelled toward this experience, in which "the pleasure is momentary, the position ridiculous, and the expense atrocious?" Why the consuming interest, the astonishing effects? Why the variations among men? Why the differing reactions among women?

For centuries nobody produced answers to the questions. Finally, about 75 years ago, when the scientific method was firmly established in the field of medicine, Sigmund Freud, Havelock Ellis, Baron Richard von

Krafft-Ebing and a handful of others started trying to find out what really happened when the lights went out, and why.

After Freud, sex became a fit subject for scientific inquiry—a sordid and illegitimate one according to many persons, to be sure—but one to which scientific tools could logically be applied. Thereafter occasional investigators entered the field in rather desultory and disorganized fashion. Even 50 years ago, there was some Kinsey-type research being done.

Yet despite a considerable amount of theorizing there weren't very many results. The problem was how to find out what people did and thought about sex without coming right out and asking them. How to find out what effect sexual intercourse had on the heart, the brain, the blood system, without taking measurements. How to find out what changes took place in the sex organs with no observation of sexual activity. Until these things were done, sex would remain a scientific mystery.

Only two men (with their associates) have so far produced any substantial body of data about sex in America. The first was Kinsey, who succeeded where others failed because he was willing to ask people the questions that had been regarded as unaskable. The other is Doctor Masters, because—risking social pressures, ostracism from the medical profession, and even jail—he has been willing to watch what was regarded as unwatchable. As a result he has earned a niche in medical history.

Masters was born in Cleveland in 1915. His father was a district manager for the early Postage Meter Company, and as such traveled widely around the country. William and his younger brother Frank went to schools in Cleveland, Houston, Evanston, Pittsburgh and Kansas City. Finally William landed at Lawrenceville, a preparatory school in New Jersey. He went on to Hamilton College in upstate New York which happened to have both an excellent English department and a first-rate premedical program. Master majored in literature, with a view to teaching it. He was a brilliant student. He did five years' work in four, wrote a master's thesis comparing the satire in the novels of the 19th-century humorist, Thomas Love Peacock, with the Gilbert and Sullivan operettas. He intended to go on to Cambridge University in England.

He never got there. Along with his English literature major at Hamilton, he had taken a premedical course. During the spring vacation of his senior year in 1938, his younger brother, always determined to be a doctor himself, talked Masters into going to medical school. (The brother, Francis Winne Masters, is now a plastic surgeon and teacher [Continued on page 102]

THE SEX STUDY THAT BEGAN WHERE KINSEY LEFT OFF

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connected with the University of Kansas.)

William Masters entered University of Rochester Medical School and rapidly fell under the influence of a professor of anatomy, Dr. George Corner.

"Corner was one of the greatest gentlemen I've ever met in medicine," says Masters. "And of course he was a great scientist, too. He was one of the original reproductive biologists. He was in hormone research very early. He identified progesterone, a hormone vital to conception, an important step forward in hormone research."

Corner, in turn, was impressed by this brilliant young student who had turned away from a potentially first-rate career in literature for medicine. In 1940 Corner left Rochester for Baltimore, where he had been asked to head the Carnegie Institute, an organization engaged in basic medical research. In the spring of 1941, he invited his former student down to have a look around.

Says Masters, "I was sitting in the Institute cafeteria one day with Corner and a couple of other senior men, and I asked them, 'What qualifications does a man need to do research in sex?'"

"They got interested in the question, and for a couple of lunch hours they talked it over with me. They decided that a man who was going into this field would first need chronological seniority—he must be old enough to be beyond suspicion. Second, he would need a definitive research reputation in an extraneous field, some kind of work unrelated to sex. Third, he would need university—preferably a medical school—support."

At that point, quite simply, Masters

committed his life to sexual research. Why?

"I can't tell you," he says. "I don't know. Part of it, certainly, was the fact that, as those senior men pointed out, nobody really knew anything about sex."

In any case, Masters set about fulfilling the conditions which Corner and the others had established. There was nothing he could do about acquiring some age, of course, but establishing a research reputation was another thing. On graduating from Rochester, he went to St. Louis, a city with a large medical complex well set up for research. He interned in St. Louis, studying the medical specialty most directly connected with sex: obstetrics and gynecology. Thereafter he went on the staff of Washington University as teacher and researcher, practicing in his specialty on the side.

In his research work, Masters concentrated on steroid hormones and the problems of aging. "We found out what happened to aging people and how to replace lost hormones," he says. Between 1948 and 1959 he published more than 40 scientific papers on aging, fertility and related matters. Today, based on Masters' work, steroid treatment is routinely given to geriatrics patients throughout the world.

By 1953 he had finished most of his basic work on steroids. He was now 38. He had a firm reputation as a first-class research scientist, and he had university backing. It was time, finally, to turn his full attention to sex.

He knew that he was pushing his way into a jungle where other good men had been hatched by narrow-minded people who objected to such explorations. Indeed, just about the time Masters was beginning to start his work, a young West Coast physiologist was retreating under a drubbing administered by official forces. This man had been curious to

know what happened to the heart during intercourse. The matter seemed of prime importance. Heart ailment is a major killer and privately, doctors told of men who died of attacks during sexual activity. Cardiac patients invariably asked: "What about sex?" but doctors had no answers.

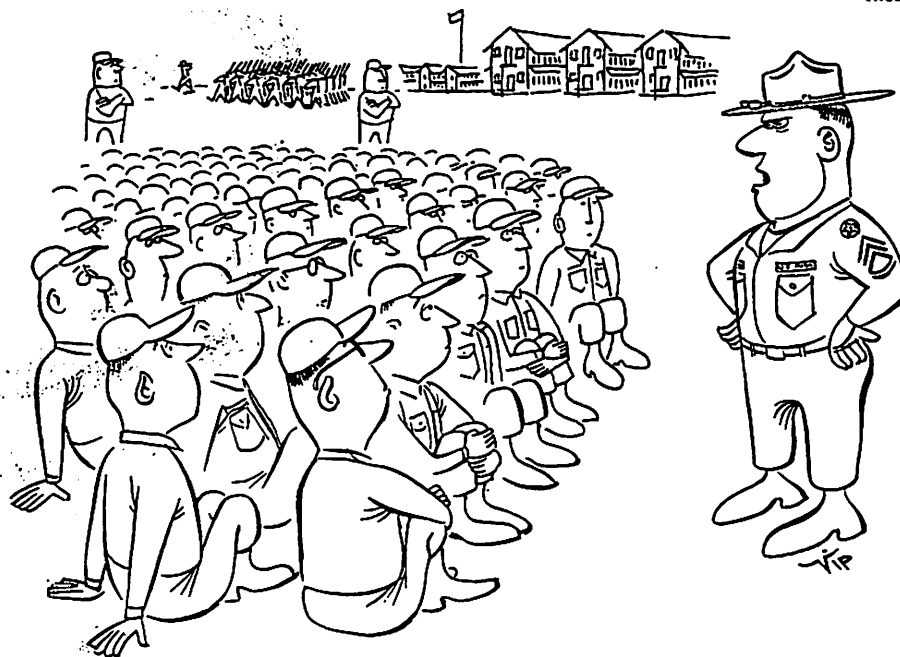
The young physiologist, perhaps naively, assumed that the way to find some answers would be to study the heart during sexual activity. Circumspectly, he obtained three volunteer couples and monitored their heart actions on an electrocardiograph while they had intercourse. He discovered that their heart rates jumped from the normal 70 beats per minute to 170 and over. This was important information, indicating that the effects of sex on the heart at the least deserved considerable further study. However, just as the results of the study were coming in, there was a pressure from a mysterious source. The sponsors of the project withdrew support, and the researcher is now working in another, "safer" field. He says, "To do this kind of work you have to be either courageous or stupid." (Masters, incidentally, is now evaluating the effect of sex on the heart and will publish his findings in the future.)

Even Kinsey, despite his enormous reputation, was not immune from attack. There was an attempt by some of his colleagues to get him fired from Indiana University in the earliest days of his research, and when he died in 1956, the United States government was trying to impound a mass of erotic research material he had had shipped in from abroad.

Dr. Wardell Pomeroy, one of Kinsey's closest associates, who is today in private psychological practice in New York, says, "This idea that Kinsey was hounded to death by his enemies is not true. He died from overwork, and besides there wasn't much of that kind of pressure—a few crank letters and phone calls."

What Masters was intending to research, however, was more taboo than anything Kinsey had undertaken, and it had to be anticipated that the attacks would be even greater. Where Kinsey was asking people about their sexual behavior, Masters sought far more information than subjects could answer themselves. He was determined to find out exactly how the body works during sex on the simple thesis that all knowledge is useful—and in this area vitally important. He wanted to know such things as the muscular reactions of the genital organs during intercourse, the timing and frequency of climaxes, the behavior of the nervous system. He was not sure, at first, what he would learn or, indeed, how to go about it.

Nor was this the end of his problems. He knew that he couldn't get a research grant until he had done enough preliminary work to blueprint a program. This meant that he would have to use his own money. He also knew that within the narrow strictures of state sex codes much of his experimentation could be termed illegal, and there was the chance that he might be jailed. Looking back on the risks, Masters shrugs now and



"... and you will quickly discover that this present modernized army is much more democratic than the army of your fathers' time. Have you got that through your thick skulls?"

says, "I felt that the end justified the means." He was never arrested.

Once Masters decided to embark on his study in 1954, he felt the necessary first step was to develop techniques of measurement.

"Fortunately," he says, "I realized that I already had at hand one group of people who not only knew a lot about the physiology of sex, but who had an interest in realistic information: prostitutes."

Although it is still possible to find an occasional prostitute around Gaslight Square, St. Louis' jazz-and-go-go area, the city has been fairly well cleaned up in recent years. When Masters started his research, however, there was no shortage of girls in the slum sections out past Union Station, on Jefferson and Market Streets.

Masters refuses to divulge where he found his girls, or who they were, other than that they were "not just from St. Louis." Nonetheless, the Jefferson and Market Street area was the logical place.

For the next 18 months Masters spent countless hours with prostitutes, visiting with them several evenings a week. The meetings began awkwardly. Apparently—although Masters won't say—he was willing to give the girls some money for their time. But they were suspicious. Unlike other visitors, he professed interest in them rather than their wares and it took a long time for him to convince them that he really was an investigating scientist.

Once this was accomplished, however, he says the prostitutes became "tremendously cooperative. Of course I had to operate on their level—I had to learn to talk their language and sympathize with their problems. Over the 18 months I got an enormous amount of material from them, both sociological and physiological—what happened physically during intercourse."

While Masters says that he probably will never publish this material because it has become dated, his work with the prostitutes led him to certain important conclusions. For one thing, he decided he could not use the prostitutes as examples of normal behavior. Their sex organs were sometimes damaged and their responses might not always be standard.

Secondly, he came to realize that sex research of this kind could only be done by a male-female team. "There is," says Masters, "the problem of chaperonage. People are far less likely to question your motives when you are working with a woman partner. For another thing, there is the fact that no male really knows anything about female sexuality and no female really knows about male sexuality. By that I mean that a man may theoretically know what female sexuality is like, but he has never experienced it. I can understand what women are talking about far better if I have a medically trained woman to interpret for me."

It took Masters a year of interviewing before he found the proper female assistant in 1957. She was Mrs. Virginia Johnson, 30 years old and recently divorced. Mrs. Johnson, a handsome, soft-spoken psychologist, is Masters' closest associate;

she is listed as coauthor of *Human Sexual Response*, and her name is on many of the projects' reports.

At the outset, Masters handed Mrs. Johnson one of his hottest potatoes, the most controversial aspect of his entire project: the recruitment of volunteers for the experiments. Getting prostitutes to cooperate was one thing; persuading ordinary people was another. How could even a doctor go about asking somebody to let researchers watch them masturbate?

Recalls Mrs. Johnson: "We almost fell over from shock with the relative ease with which we got volunteers."

Says Masters: "We just asked people if they would help. We began with people we knew around the university. We asked outpatients, the nursing staff, professors, medical students, medical technicians—all the kinds of people you would normally find around a huge medical complex. After the first year, people began to come in unasked and volunteered. In all, we interviewed about 1,200 people. Of these we eventually used about 700—382 women and 312 men, to be exact, ranging in age between 18 and 89. Of the rest, about 40 percent turned us down. The remainder we rejected for one reason or another. For one thing, all of our volunteers had to be able to have normal orgasm both from coitus and automanipulative techniques. For another, some people had physical abnormalities which ruled them out. And then, of course, we got pretty good at screening out people who were just looking for thrills."

They had to be. Although volunteers were assured that their identities would be kept secret, inevitably, the project attracted a certain number of exhibitionists whom Masters took pains to eliminate. Each volunteer was required to give a detailed medical, social and sexual history to both male and female interrogators, was introduced to all personnel who would be observing and was shown the equipment that would be used for recording and measuring reactions. After selection, subjects were, as Masters describes in his book, encouraged first to have sexual activity in privacy in the research quarters before doing so with investigative team members present.

Some of the volunteers were used only a few months for special tests. Others have been observed once a month for years. The studies take place in a small room, containing a bed, some laboratory gear and little else. The subjects may be asked to engage in sex in the presence of technicians, cameramen, medical artists, in addition to Masters and Mrs. Johnson. The volunteers used were not, as Masters readily admits, a cross section of the population. Drawn as it was, the group was better educated and more intelligent than average and, because of the medical atmosphere from which it largely came, freer in attitudes towards sex than most people. This still does not entirely explain why participants would subject themselves to Masters' studies.

Says Masters, "We paid them well, for one thing. Money was an important consideration to the medical students. But there is always a certain amount of intel-

[Continued on page 106]

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[Continued from page 103]
lectual curiosity, too. I've never encountered anyone who was not curious about himself."

Inevitably, as word of Masters' work got around the university campus, a certain amount of "would-you-wouldn't-you?" conversation developed. Says one recent graduate of the university. "I don't know of anyone among my friends who actually volunteered. Nonetheless, people were pretty liberal about it. Masters has a sperm bank here, and a lot of people went into that." (Sperm banks supply seed for artificial insemination when husbands are infertile.)

The problem of volunteers solved. Masters turned to two others: money and bluenoses. They were intertwined and neither was easy to deal with. In 1957 he applied for, and received, a grant from the U.S. Public Health Service. This source was abruptly shut off in 1961. No explanation was offered, but the suspicion remains that somebody in the incoming Kennedy administration feared there might be vote-losing potential in the research. Masters next tried, without success, to get help from the big-name foundations. Eventually, he was able to get money from a few small foundations and private philanthropists.

Even today, money remains a problem. With more funds, Masters could move ahead faster with some vital studies. Take, for example, his discovery of the sperm-killing substance in the vaginas of some women. Masters knows it is there, but at present that is all he does know. Its importance is enormous. If he could remove or neutralize it, he might, of course, help thousands of childless couples to have babies. Or the substance might actually prove to be the simple, universal contraceptive scientists are so desperately looking for to solve the problems of overpopulation. Despite the grave importance of the matter, Masters has not been able to obtain enough money to hire one full-time biochemist to isolate the deadly substance.

Money, indeed, was a major reason for publishing the book. All royalties go to the Reproductive Biology Research Foundation which he has established, and the book's acceptance is a windfall. The royalties are going to prove far more lavish than Masters ever expected. The book is certain to bring the Foundation over \$100,000 and the figure eventually could reach \$250,000.

Resourceful as Masters has shown himself to be in scuffling for money, his ability to control premature publicity about his work bordered on the incredible. "I'm really terribly naive about public relations," he says. "I know nothing about it at all." Yet his success at keeping news of his studies out of 8,000 U.S. magazines and 1,700 newspapers for 10 years is surprising. Between 1954, when he began with the prostitutes, until the fall of 1964, not a single word about his research appeared outside of a few obscure medical journals.

How did he maintain public secrecy? "Over that time we had about 25 or 30 newspapermen approach us for a story," he says. Usually inquiries came after I'd talked to physicians somewhere about the

work. My approach to the newspapermen was absolutely honest. I'd just lay the cards on the table, explain what we were doing, and ask them please not to give the show away yet until we had some results. Press cooperation has been marvelous."

One factor that helped to keep the work covered up was the refusal of the important medical journals to publish his papers. In the end, most of the approximately two dozen articles appeared in the relatively obscure *Western Journal of Obstetrics and Gynecology* (now *Pacific Medicine and Surgery*). Big-city science editors, who can't read everything, missed these progress reports.

The man who broke the cover, finally, was not a reporter at all, but a member of the medical profession. He is Dr. Leslie H. Farber, a Washington, D.C. psychoanalyst and head of the Association of Existential Psychology and Psychiatry. In an article in the November, 1964, issue of a small, literary-type journal, Farber described Masters' work in the course of attacking it for taking the romance out of sex. This put the fat in the fire and Masters decided to publish

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his book as soon as possible. "We'd have liked another year," he says, "but we're grateful for the time we had."

In a way, however, the public problems of money and critics are no less troublesome than the complex personal headaches sex research brings. Masters and Mrs. Johnson, of course, are not the only observers involved in the study. There have been the photographers, artists and other technicians, as well as three outside researchers.

What does a wife or husband of someone engaged in such work think? Won't observers be stimulated erotically and perhaps dangerously? What about one's family? (Masters' two teen-age children have been subjected to some ridicule and indignities.)

Masters brushes these personal aspects aside as part of the job at hand. "We never bring anybody into the program—observer or participant—without a lot of orientation first," he says, indicating that the families of the observers also are forewarned about the nature of the work. Moreover, Masters insists that any normal person who has been properly screened and oriented will be unfazed by the sight of couples engaging in intercourse only a few feet away.

Other researchers agree. Says one man

who worked on a previous, though considerably less intimate sex study: "You watch so often, you just never get a personal flicker. People at nudist colonies don't get sexually excited, you know."

Masters today is ensconced on the second floor of a small office building on St. Louis' Forest Park Boulevard, near Washington University. Although the sex project is now officially separated from the university, he still practices some gynecology and continues to teach a course in human sexual response at the University Medical School—a course he was the first to teach anywhere.

Three-fourths of his 80-to-90-hour work week, however, goes into the Foundation. He is continuing his observations, of course, but much of his time now is devoted to adapting his findings to help frigid or impotent men and women. The usual procedure is for a married couple with sexual problems to spend some time in St. Louis where they are examined, counseled and given what amounts to a course in lovemaking.

Last May, Masters and Mrs. Johnson reported to a convention of psychoanalysts that more than 80 percent of 268 couples who had come to them for assistance went on to achieve a satisfactory sexual adjustment. Doctors termed the rate of success far higher than ever before reported.

Masters is planning to publish these results in 1968 in a book to be called, *Human Sexual Inadequacy*. He also hopes by next year to establish a post-graduate training program for therapists who then will be able to use his methods in counseling their "sexually crippled" patients throughout the country.

This is not to say that Masters doesn't continue to receive sharp criticism both from within and without the medical profession. Much of it echoes the Farber refrain that Masters' research ignores such matters as love, tenderness and privacy which obviously play a part in the sex lives of human beings. Dr. Morris Fishbein, the well-known former editor of the *Journal of the American Medical Association*, complains, for example: "The findings obtained are immediately biased by the artificiality of the environment."

Other authorities, however, have cheered his studies. A professor at the University of California called the book "the best work that has ever appeared in this field." A distinguished New York doctor hailed the removal of sex discussions from an "overcharged psychological atmosphere to a medical one that can undercut some of our deeply imbedded puritanical attitudes and vicious moral inhibitions."

Doctor Masters, the strong-willed center of the controversy, is more convinced than ever of the value of his work. So are most of the other workers in this particular vineyard. They say: any man who can bring medical understanding to sex and overcome the miseries of sexual failure has earned a right to ignore criticism. Anyway, 70 percent of the letters Masters received after publication of the book, were neither pro nor con. They simply were pleas from people seeking advice.

—James Lincoln Collier