The Making of Global Biomedical Science: Christopher Tietze and the Globalization of Contraceptive Research

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Intentions and Purpose of Research

I intended to document the work of Christopher Tietze, director of the National Committee on Maternal Health, regarding the growing importance of research ethics and feminist activities which put under scrutiny biomedical research and, especially, contraceptive research. My purpose was to confirm the reputation Tietze had in the broad women's health movement. There is, however, very little evidence that Christopher Tietze was close to being a feminist or was "pro-choice," so to speak. Although, as I started to dig deeper into the National Committee on Maternal Health (NCMH) files, I realized that it would not be that simple. The NCMH files are chronologically organized and mix a variety of different types of documents.

Only a few files refer to specific personal correspondence and give some insights on Tietze's views. However, it is undeniable that Tietze had interaction with countless birth control activists in the world and had shared his perspective on women-controlled contraceptives and women's rights to decide for themselves. Highly relevant to me were the letters he exchanged with Marie Lagroua Weil-Haillé, a historical figure of birth control in France who was at the origin of the French family planning association.[1] Moreover, Tietze demonstrated many times that he was a

strong advocate of personal and voluntary choices regarding birth control. He seemed to have little sympathy for coercion and rigid population programs in Third World countries.

To sum up my first impressions of the NCMH files, I would say that I quickly decided to focus on other aspects of Christopher Tietze's work which are related to my current research project with the INSERM in Paris. Focusing on clinical trial protocols and the thousands of documents related to the better ways to conduct clinical experiments on contraceptives is a very promising approach to the NCMH files within the Population Council (PC) Archives.

Hence, my research agenda changed radically and turned to the need to document how clinical trials were conducted and conceived by statisticians, medical personnel, birth control activists, and contraceptive manufacturers. It has considerably broadened my perspectives on the exploitation of the archives. In fact, I have had to reconsider my whole research agenda by focusing on the clinical experimentations Tietze had managed as a biostatistician.

These modifications in the research plan have greatly contributed to the need to readjust my investigations and to therefore produce less immediate results. I will need to develop a specific focus on the NMCH within the global experiments which were conducted in the 1950's and 1960's with PC support.

Research Methodology

I conducted a thorough analysis of the entire NCMH collection dating from Tietze's appointment as a director in January 1956 to its integration within the PC in 1966. These documents of more than ten years of research and correspondence are considerably relevant to my team's research in France. To expand this study, I have looked at references to vaginal contraception in related Rockefeller University (RU) collections, some other PC files, and 1980's

research and activism sponsored by the Rockefeller Foundation (RF). My purpose was to look for any references to vaginal contraception and interest in spermicides and venereal diseases.

Vaginal contraception is a poorly documented segment of birth control history. In order to write forthcoming papers for international journals, I needed to reassess the entire field of research on vaginal contraception and the assumptions that led researchers to reconsider these products to prevent HIV infections in the Global South. Christopher Tietze conducted many different clinical programs on contraceptive efficiency in the 1960's and was at the very center of the construction of clinical trials on contraceptive products.

As I was conducting research on microbicides (substances used as prophylactics for topical applications against infection by the HIV virus) and the history of scientific efforts against the AIDS pandemic, I found it particularly interesting to compare how clinical trials were developed in the first decade of large clinical trials on contraceptives in the 1950's-1960's with microbicide development in the 1990's. There are stimulating similarities between research protocols invented in the 1960's and the first clinical trials on HIV prophylaxis. There is also a striking continuity in the professional trajectory of some scientists. Although, I am still in a phase of data analysis, I have been able to reconnect some key participants of the Clinical Investigation Program (CIP)[2] to more recent programs of the 1970's, which renewed the scientific interest for vaginal contraception.

Aquiles Sobrero, a director of research for the Margaret Sanger Research Bureau, was also a member of the long USAID-supported PARFR program which was one of the few organizations to fund research on spermicides in the 1970's. The history of vaginal contraception allows us to comprehend the logic which guided contraceptive research. Vaginal contraception, especially spermicides, has often been treated with contempt and is generally considered "low-tech" and

rarely effective. It was, nevertheless, intensely supported by USAID as a way to distribute low cost simple contraceptives to African and Asian countries.

The PC Archives at the Rockefeller Archive Center (RAC) helped document the gradual loss of interest in vaginal contraception in the 1960's. The shift to oral contraception is not only relevant as a major societal fact, but is also a complex process which is related to clinical experimentations and the scientific validation of oral contraception and IUDs. The CIP program helped demonstrate that vaginal contraception was quite ineffective compared to other means of contraception. The National Committee on Maternal Health, the Population Council and PPFA all collaborated to evaluate different means of fertility control. They did prove that the IUD and the hormonal pill were much more efficient than the previous contraceptive jellies and foam tablets. It was the work of Tietze which permitted the development of true scientific evaluations of contraception. In doing so, he contributed to the move from vaginal contraception to more effective contraceptive technologies.

Currently, I have approximately 1,600 documents from the NCMH files that relate to the work of Tietze. This variety of sources offers multiple dimensions of interpretation as I examine them.

First Perspective:
Clinical Testing and the Construction of Biostatistics in Human Reproduction

As Marcia Meldrum demonstrated in her Ph.D. dissertation "Departures from the Design," (New York University, 1994), Tietze accomplished considerable work by stabilizing the research protocols and norms of clinical testing in the U.S. He helped the CIP program to build a solid reputation and scientific credibility in the field of biomedical experimentation. Through the NCMH collection, we can investigate the role and institutionalization of research committees in

the 1950's and early 1960's, a time when research protocols and clinical trials had not been fully codified by laws and FDA regulations, but when norms were also produced by praxis and experimentation.

Valuable documents can be found on the "Margaret Sanger Research Bureau's Committee on Approval of Chemical Contraceptive," as well as on the "IPPF regulations and laboratory testing" in the 1950's (Ad hoc testing committee). The spermicide testing documents give us incomparable insights of the decisions made regarding protocols and testing inside such research committees. Tietze contributed to the design of the statistical tools used to evaluate clinical trials and he also contributed to defining what would be the best form of data collecting among contraceptive users in the U.S., as well as in Third World countries.

The NCMH files, mostly organized around Tietze's work, are rich with hundreds of follow-up forms, discussions and other records addressed to Tietze for reviewing. In fact, this was one of the principal activities Tietze conducted throughout his association with several important clinical testing programs (CIP or the IUD program conducted by the PC). This particular kind of clinical form allows us to picture how clinical testing was codified and how the practical problems of following-up contraceptive users, home visits, and contraceptive choices for the patients were dealt with by Tietze. His influence in the world of contraceptive clinical experiment is demonstrated by countless letters he exchanged with family-planning experts, activists and public servants. From French family-planning activists to Pakistan generals in charge of the population program in their country, Tietze shared his knowledge and views with many prominent personalities involved in contraceptive testing or in family planning activities. He provided the international population field with more reliable and scientific methods to evaluate contraception and, thereby provide women with efficient contraception.

Impartial and rigorous, Tietze demonstrated, through the CIP and other studies, that vaginal contraceptives are rarely reliable when it comes to a true "use-effectiveness" study of their capacities. Tietze, along with Mary Steichen Calderone from the PPFA or Aquiles Sobrero from the Margaret Sanger Research Bureau, helped design research protocols in the Third World and in the U.S, and constructed their experience with the concept of accumulated "months-use" to evaluate contraceptive effectiveness. However, the major success of the CIP program was the attention it attracted to contraceptives and Planned Parenthood as an institution recognized for its capacity to conduct scientific clinical trials.

Thanks to the NCMH archives, we can observe that in less than ten years Tietze faced multiple challenges regarding different technologies, which were becoming available to the general public, such as: spermicides, condoms, IUDs, and oral contraceptives. This ten year period, from 1956 through 1966, saw the activity of the NCMH become revived and demonstrated the acceleration of clinical testing and the slow imposition of scientific standards in the field of biomedical research on contraceptive technologies. The PC, while keeping its distance from Tietze during the first years, benefited greatly from his work and his correspondence with Council officers.

The establishment of a biostatistics division within the Council was at last possible thanks to Tietze's long accumulated experience. He finally joined the Council in 1966, the same year he became professor of biostatistics at Columbia. What we learn through a thorough review of the different research programs Tietze conducted, is that he was an excellent research coordinator and a person who went to the clinical testing sites to discuss matters with local staffs. He is a formidable example of and personalization of the institutionalization of clinical science in the 1960's. One of the most striking examples of his centrality in the field of birth control is that he

was constantly consulted by family planning associations, scholars and public servants in Third World countries to assess the validity of their own protocols and studies.

That is why I consider him a "Global population scientist" in order to conceptualize the magnitude of his accomplishments.

Second Perspective:
Christopher Tietze, a Global Scientist before the Globalization of Health Policies

Tietze and the NCMH gained rapidly an international reputation which brought him to work closely with major institutional partners in the Third World, the U.S., and also Japanese and European experts. General correspondence shows that Tietze exchanged his views on research and protocols with hundreds of key persons in the world and certainly influenced important members of several national population policies and family planning associations.

It could be fascinating research to analyze the specificity of the exchanges Tietze had with personalities all around the world. I was first interested in his relationships with activists and, eventually feminists, but in fact the period was quite early to observe a neat increase in activist interest. However, there is a very interesting correspondence between Lagroua Weil-Hallé and Tierte, though it involves only eight documents. We can, however, observe that Tietze was very supportive and completely aware of the local efforts all over the world to foster new birth control policies. He was very supportive of women's associations that tried to promote liberal regulations on birth control.

The magnitude of Tietze's correspondence is by far, the most impressive in the field of human reproduction. Tietze exchanged his views and expertise on population issues with people from dozens of different countries. Particularly interested in Eastern Europe, he was one of the few experts in the U.S. to possess strong professional connections with medical communities in

communist countries. He even participated in some scientific events in the Eastern Bloc. When family planning programs started to blossom in the Indian subcontinent, Tietze became one of the key experts who public officers contacted to get more information about new technologies, but principally to construct new clinical experimentations.

During his NCMH years, Tietze reviewed thousands of follow-up forms and questionnaires. Under his precise direction, most of the forms used for clinical investigations were standardized and adopted a common organization which was transposed to punched cards for ancient computers. Such follow-up forms were quite uniform from one country to another. For example, the Grafenberg ring investigation which Tietze conducted, because the inventor of a new "ring", Jack Lippes, signed an agreement with the Population Council to evaluate its effectiveness and dangerousness[3] used almost similar templates as the CIP program for vaginal contraception. The admission sheets and follow-up documents were basically the same in the United States and in other countries. In fact, he did, with the increasing presence of his wife, Sarah Lewitt, considerable work to offer standard questions and follow-up procedures to gather information on contraceptive use and the reality of contraception use in different parts of the world.

Another important aspect of the NCMH work in contraceptive testing can be found in the Indian subcontinent. Tietze was in contact with most of the family planning leaders in Pakistan and India and helped them design their own clinical testing, for example, the recommendations he made to the Ceylon family planning association in 1961[4] and the way he contributed to bettering their investigation. In 1959, he was working with the India family planning association to conduct clinical testing. He was also very active in commenting on academic work and investigations from fellow experts in the developing world. For example, we can find a thorough letter of comments to an Indian specialist, S.H. Agarwala,[5] in which Tietze gave precious

comments to his Indian counterpart. He also received follow-up forms from the Indian family planning association.[6]

A large part of Tietze's work consisted of routine exchanges of bibliographical references and papers that he wanted to circulate in the global family planning. Thousands of letters were sent to experts in India or the Philippines, and France and Mexico. It is fascinating to observe how Tietze managed to be one of the most important nexuses of an incipient globalized field of population and birth control research. While the PC was being built with patience, Tietze was free to have discussions with abortion specialists and sociologists twelve years before Roe Versus Wade. Tietze used his European background to animate a formidable exchange of information between experts from both sides of the Atlantic. His influence was consequently a determining factor in the making of a global contraceptive scientific field.

The National Committee on Maternal Health was just a vehicle for Tietze to conduct clinical trials and to develop scientific standards and statistics. Through its institutional form and its connections with the PC it dramatically helped him advance his views on the contraceptive field and offered him the possibility to be an opinion that mattered in the global scientific community interested in birth control.

Tietze and the CIP

One of the first transnational clinical research programs on contraceptives was under Tietze's guidance. The Contraceptive Investigation Program was designed by the IPPF and PPFA (Planned Parenthood Federation of America) to assess the efficacy of available contraceptives in the U.S. and abroad. The CIP allowed the development of large scale clinical trials using voluntary family planning patients to evaluate the effectiveness of different contraceptive methods. The difficulties were plenty and Tietze played the role of an unofficial research director

for countless experiments, dealing with several family planning associations. One important element was the multi-sited international tests that aimed at producing relevant data in different cultural settings. The program was conducted in seven different clinics in the United States, and also in Mexico City.

The questions which were raised by the research protocols greatly influenced other studies. While Tietze was intensely involved in the CIP, he was also frequently asked to assess the statistical accuracy of other studies in the world. His main expertise, as documented in the NCMH files, was his capacity to build standardized follow-up forms for patients, consequently Tietze participated in the design of much clinical research in the 1950's and 1960's. He can be considered the most influential scientist regarding clinical testing of contraceptives from 1955 to 1970, since he oversaw most of the important clinical programs on contraception during that time period.

Tietze knew that good statistical data was needed in order to get a better picture of which contraceptive really possessed a strong potential for global birth control. Of course, this was before the hormonal pill was available on the market. It was crucial at the end of 1950's to collect more scientific information so as to address the growing anxiety of U.S. political leaders regarding population growth. This concern allowed the program to get some funding from private donors, but it never managed to attract NIH funds. The specificity of the CIP allowed Tietze and Mary Calderone to design model studies which could be exported in other contexts. Tietze used his experience in the CIP to foster clinical testing all over the world. The data collected in Cleveland, New York or San Antonio helped refine the quality of protocols and took into consideration the singularity of locations and populations. Foam tablets, spermicide jellies, and aerosol contraceptives were evaluated in the long run and most of them proved inefficient,

contrasting with numerous in vitro experiments. The definitive judgment on most vaginal contraceptives prepared family planning associations to adopt new contraceptive technologies, those possessing a statistically demonstrated effectiveness (Tietze later published his results in 1968). The experience Tietze acquired during the CIP allowed him to expand his research to other continents and to advise dozens of researchers in India, Pakistan or Sri Lanka from 1961 to 1965.[7]

Durafoam Tablets and Foam Tablets Trials

While Tietze was completing his data collection with the Planned Parenthood Federation of American clinics, he started a new clinical program with the IPPF regarding the acceptability of foam tablets in eight different countries, which were mostly Asian allies of the United States. The convergence of studies around 1960-1961 gave him the opportunity to assess different approaches regarding various cultural settings. It is remarkable that the complexity of managing global clinical trials was mastered by Tietze since he was only exchanging letters with his foreign colleagues. One quality Tietze possessed was his capacity to deal with contraceptive manufacturers.[8] His excellent relationships with tablet and jelly manufacturers promoted a better management of contraceptive shipments and distribution for family planning clinics.

During the building-up phase of research protocols, Tietze was the real designer of the foam tablets trials. He made many corrections to the initial research protocols planned by IPPF and tried to take into consideration the complexity of local acceptance and preferences regarding contraceptive use. His role was even more important in this study than in the CIP study. As research director, Tietze was responsible for the trial design[9] for the foam tablet acceptability study.

The IPPF's main purpose was to document the possibility of developing the adherence to vaginal contraception among Third World women. It is remarkable that a considerable part of Tietze's archives deal with the design of follow-up forms. The construction of the study was not only a statistical matter for Tietze, it was also part of a sociological work, in which he intended to collect cultural preferences and national differences regarding contraceptive behavior. Tietze had to design follow-up forms adaptable to different cultural settings, therefore creating standardized procedures for contraceptive clinical trials in Third World countries. However, the study was also conducted by Rotha Peers, an IPPF secretary who had difficulties maintaining good relationships with IPPF partners in India and Pakistan.

This kind of problem emphasizes the difficulty of conducting clinical experimentation at the global level in the 1960's. A comparative approach with current global clinical trials helps us understand how complex it must have been before the digital and logistic revolutions. Local family planning clinics were problematic in oversight and control from the United States, as was the use they made of the contraceptives which were sent to them. Some letters even mention custom problems, because custom officers in Pakistan were reluctant to release contraceptives.

Tietze's new role as a research director also involved more travel, for example, a NCMH-paid three months stay in Pakistan, during which he visited other Asian countries. For this particular program, Tietze also had to manage pure logistics problems, such as manufacturers sending their products to Third World countries without proper protection.[10] It appears that custom relations between Pakistan and India posed a great challenge for the transport of contraceptive material as well.

Trials were also conducted in Kenya and South Africa with the same foam tablets used elsewhere. Interestingly, the required number of women to reach statistical significance could not

be obtained because of the difficulty of dispatching large quantities of tablets to each site. Egyptian doctors claimed that they were able to enroll five hundred women for the study, but there were only enough tablets for two hundred. This is one of the difficulties in the foam tablets acceptability study. Material conditions were not prone to foster easy access to contraceptive products to be tested in distant places. Nevertheless, Tietze benefited from the work of the IPPF secretary, Rotha Peers, who succeeded in maintaining a flow of tablets between different countries and managed to follow all the tablet shipments to make the study viable.

Another impediment to the development of high-quality clinical trials in those days came from the physical impossibility of starting trials in ten different countries simultaneously. In this day and age, it is quite simple to provide trial sites with the proper equipment and the appropriate products, but in 1963, it was rather complex to get all the contraceptive gels to arrive at the same time. Further questions arise: "Is a history of clinical trial organization possible? What can we learn from Tietze's effort to design reproducible protocols globally?"

Finally, patients' reactions in the trials represent a fruitful possible comparison with current contraceptive and IST prophylaxis trials. Some patients in Kenya apparently tried to sell back the foam tablets which were given to them, in some other countries the smell of tablets was perceived as very offensive. Unexpected cultural preferences were already common in the 1960's.

General Assessment and Publication Projects

The research that I conducted on the biomedical study of spermicides and non-specific contraceptive agents has helped me design a new approach toward microbicide development and clinical experimentations in the Global South. Procedures, politics and organizations involved in contemporary contraceptive research in African or Asian countries remarkably resemble the

forms that took place in the 1950's, when philanthropists and foundations had a considerable interest in testing their contraceptive recipes in Puerto Rico or in India.

It appears that contraceptive research has been a "population control" initiative from the 1950's to the 1980's. Patterns of actions and demographic goals have determined the ways ethics and experimentations were conceived. The burden of decades of conducting experiments in Southern countries and in poor settings in the United States has prejudiced further microbicide and contraceptive experimentation in the 1990's. It is possible to develop a very stimulating research plan connecting local contraception to present biomedical research regarding Sexually Transmitted Infections (STI) prophylaxis.

The importance of conducting research on spermicides experimentations in the 1950's to document present scientific questions has proven to be bear substantial possibilities. I am now able to draw lines and connections between scientific personalities and institutions which have dominated the biomedical research agenda for decades and to therefore understand why microbicide research borrows so much to spermicides' history. The similarities between the different eras of research, question some of the major certainties in contraceptive research, and also question the reality of ethics in research, since significant mistakes were sometimes made more than forty years after ethical questions were raised in the field, one example being, informed consent in Southern countries and the difficulty to translate not just words, but concepts to people.

I now plan to write three papers on different aspects of my research. One would deal with clinical trials in contraceptive research in the perspective of a long history, comparing spermicides to microbicides and other new combinations of prophylactics/contraceptives. This paper will be submitted to *Social History of Medicine* and is currently being translated from

French to English. Another paper has already been published. Finally, I intend to devote an entire paper to Tietze's research and his correspondence networks.

The paper I am preparing will deal specifically with the construction of "forms." The documents which were designed to collect people's experiences are a central part of NCMH files. My research at the RAC has afforded me the possibility to make essential comparisons between two rarely documented fields of scientific history: the history of vaginal contraception and the history of vaginal prophylaxis.

ENDNOTES:

[1] Population Council Archives (PCA), Rockefeller Archive Center (RAC), IV.3B4.4, Box 77, Folder 1445.
[2] Clinical Investigation Program, a research program conducted by Planned Parenthood Federation of America with the assistance of Christopher Tietze and the Margaret Sanger Research Bureau.
[3] PCA, RAC, IV.3B4.4, Box 82, Folder 1543.
[4] PCA, RAC, IV.3B4.4, Box 81, Folder 1535.
[5] PCA, RAC, IV.3B4.4, Box 78, Folder 1480.
[6] PCA, RAC, IV.3B4.4, Box 77, Folder 1459.
[7] PCA, RAC, IV.3B4.4, Box 86, Folders 1535 and 1536.
[8] PCA, RAC, IV.3B4.4, Box 82, Folder 1550.
[9] PCA, RAC, IV.3B4.4, Box 85, Folder 1606.
[10] PCA, RAC, IV.3B4.4, Box 93, Folder 1734.