

THEMES AND DEBATES

Doctors Gone Bad: Physicians, Dictatorships, and Warrior Cultures

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To paraphrase Arthur Conan Doyle's Sherlock Holmes, "When a doctor [goes] wrong, he is the worst of criminals. He has [both] nerve and knowledge."

Today's program is entitled, "Doctors Gone Bad," and will focus on unethical human subject experimentation from World War 2 to the present. An underlying theme of the following chronology is how the cooptation of an influential professional class by dictators, demagogues, and elected (but corrupt and secretive) rulers allows such rulers to maintain and extend their authority, wage war, and to ruthlessly commit crimes against humanity.

During World War 2, the guiding Hegelian philosophy of Nazi Medicine was one of rational utility, meaning "what is useful is right." Nazi Medicine was essentially an arm of state policy, with a focus on racial purity, beginning with the sterilization of 370,000 "misfits and undesirables"; followed by the involuntary euthanasia of 70,000 elderly, chronically-ill, and mentally-disabled persons; and culminating in the large-scale genocide of over 6 million Jews,

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Catholics, gypsies, and others. The Final Solution was based on Social Darwinism, a movement with disturbing parallels in the American and British eugenics movements. Individual worth was conceived of in economic terms. Propaganda focused on obligations to the state. Doctoring the nation became more important than doctoring individuals. There was a significant focus on preventive medicine and public health, including anti-tobacco and anti-alcohol campaigns, reductions in environmental toxins, and organic farming, all designed to improve the Aryan stock. Medical journals were relatively silent about ongoing abuses. Movies and textbooks reinforced Nazi ideology.

52,000 physicians joined the National Socialist (or Nazi) Party. The percentage of doctors who joined was higher than that from any other profession. Jewish physicians were ostracized, killed, or committed suicide. They were replaced by young Aryan doctors, enticed by a mixture of patriotism, relatively high salaries at a time of economic disruption, and opportunities for academic advancement. Today, just 0.2% of German physicians are Jews, compared with 17% in the pre-Nazi era.

Many Nazi physicians were also "researchers," although a more appropriate descriptor would be "torturers," as experiments were often poorly designed and involved horrendous levels of sadistic violence. Examples include:

Dr. Sigmund Rascher, who amputated limbs to study coagulation and exposed concentration camp prisoners to frostbite- and gangrene-inducing sub-freezing temperatures to study hypothermia.

Drs. Karl Clausberg and Viktor Brack, who deliberately irradiated detainees' testicles when they sat in chairs under which was a highly

radioactive source, in order to determine the most efficient method of sterilization.

Dr. Karl Gebhart, who carried out heteroplastic (inter-species) transplantation experiments, following on Soviet biologist Ilya Ivanovich Ivanov's attempts to breed ape-man hybrids.

And Dr. Joseph Mengele, who studied septicemia by deliberately injecting prisoners with bacteria, and who was fond of vivisectioning twins.

Some Nazi physicians are well-known, at least to health care professionals, including:

Pathologist Friedrich Wegener, who autopsied a prisoner with oxygen injected into his bloodstream in an embolism study and may have participated in experiments on concentration camp inmates. Until recently, an inflammatory vasculitis now called granulomatosis with polyangiitis was known as "Wegener's Granulomatosis."

Dr Hans Conrad Reiter was a Nazi official known for an autoimmune rheumatologic illness, formerly "Reiter's Syndrome," but now referred to as "reactive arthritis".

Dr. Hans Eppinger, whose water deprivation experiments inflicted so much suffering that inmates resorted to drinking soapy water mopped onto floors as well as toilet water. Until relatively recently, Asperger, whom many consider to be the "father of modern hepatology," or the study of liver diseases, was the namesake of the major international prize in liver disease research.

And Dr Hans Asperger, one of the first to describe autism (as including, among other traits, being "in opposition to Nazi Party values"). Eppinger, cooperated extensively with the Nazis, personally transferred and approved the transfers of children to concentration camps, and is best known for the moniker Asperger's Syndrome, a diagnosis now subsumed into autism spectrum disorder.

Incredibly, ethics instruction was widespread in Nazi Germany. Eugen Stähl, a well-known ethics teacher, directed the euthanasia program at Grafeneck Castle, where 10,000 mentally ill patients were gassed; and Rudolf Ramm, who wrote an ethics textbook and was editor-in-chief of the Journal of the German Medical Association,

promulgated ethical arguments for the "Final Solution."

There were also "indirect participants" among German academics, including Professor J Hallervorden, who studied the nervous system, lent his name to Hallervorden-Spatz Disease (now pantothenate kinase-associated neurodegeneration), and who wrote about his use of concentration camp cadavers: "If you are going to kill all these people at least take the brains out so that [this] material [can] be utilized...the more [brains] the better...Where they came from and how they came to me was really none of my business."

There were pockets of resistance, especially among Catholic, Marxist, and Dutch physicians, such as Doctors Eugene Lazowski and Stanislaw Matulewicz, who created a fake typhus epidemic during the German invasion of Poland, fooling the Germans who quarantined a village, allowing many to escape death.

During World War 2, the Japanese had an extensive biological and chemical weapons program involving over 10,000 doctors and researchers and led by physician Shiro Ishii, Chief Medical Officer of the Imperial Japanese Army. "Experiments" included deliberate infections of prisoners with plague, cholera, typhoid, anthrax, and tuberculosis; injections of drugs and vaccines not previously tested in animals; surgeries performed for training purposes without anesthesia; and detonation of bombs near victims, followed by vivisections. Subjects were referred to as maruta ("logs"). The number of victims was in the six-figure range.

At the Nuremberg Doctors' Trials following the Allied victory, 23 German physicians were tried, 16 found guilty, and 7 hanged (including Brack and Gebhart). Hallevorden committed suicide, Rascher died before the trial, and Mengele fled to Argentina (where his remains were verified in 1985). After World War 2, the U.S. brought over 700 Nazi rocket scientists (including Werner von Braun) to help build our nuclear missile program. Chemist Otto Ambros, who invented sarin nerve gas, was convicted of mass murder at the Nuremberg Trials, although later freed and worked with the U.S. chemical industry on thalidomide, an anti-nausea drug which also caused birth defects and was ultimately taken off the market.

Many physician participants in the Japanese atrocities later reached prominent positions in medical schools and societies (including the Tokyo Prefectural University, the Japanese Olympic Committee, the Green Cross, and the Japanese National Institutes of Health), as well as in private sector companies.

Following the Japanese surrender, the U.S. government made a secret deal with Ishii and his top collaborators, offering 250,000 yen and immunity from prosecution in exchange for exclusive access to their data. Some Japanese scientists were brought to Fort Detrick, MD, to help establish the American biological and chemical weapons programs. Ishii reportedly moved between the U.S., South Korea, and Japan, later worked at a children's free clinic, and converted to Catholicism one year before his death from throat cancer in 1967.

In 1950, the Science Council of Japan (equivalent to US National Academy of Sciences) vowed that Japan would "never pursue scientific research for the purpose of war." All military research was proscribed in 1967, but in 2015, the Japanese Defense Ministry began once again to fund university research with both civilian and military applications.

In 2012, the German Medical Association unanimously issued a blunt, straightforward apology for its role in the Holocaust. The United States has never apologized for co-opting and protecting war criminals in exchange for their assistance in our own military R and D.

The Nuremberg Code of medical experimentation arose out of the Nuremberg Trials. Its basic principles are voluntary consent; avoidance of unnecessary physical and mental suffering; the option for subjects to quit at any time; and the responsibility of researchers to terminate the study if risks exceed benefits.

Later oaths for physicians include the Declaration of Geneva, in which a doctor promises "not to permit considerations of religion, nationality, race, party politics or social standing to intervene between his duty and his patient." The declaration also states, "It is unethical for physicians to employ scientific knowledge to imperil health or destroy life."

The U.S. has its own deplorable history of abuses in World War 2 and beyond. During WW 2, we exposed tens of thousands of soldiers and

Japanese internment camp victims to mustard gas. Veterans were sworn to secrecy, and only in the late 2000s did the Veterans' Administration, under media pressure, begin to re-examine health claims in earnest. Other experiments involved deliberate infection of prisoners with gonorrhea, gas gangrene, dengue fever, and malaria. Drs. James Ketchum, L Wilson Green, and Van Murray Sim all conducted psychochemical warfare studies for the US Army. Ketchum later joined faculty of University of Texas Medical School.

Indeed, research on prisoners was common in the U.S. and elsewhere. For example, Joseph Goldberger's 1915 studies which led to the discovery that vitamin B3 deficiency causes pellagra were carried out on inmates. Sometimes prisoners received perks and sometimes they were pardoned or paroled in exchange for participation. Pharmaceutical- and government-sponsored studies on prisoners were common during the 1940s and 1950s. Over 90% of pharmaceutical industry research in the early 1970s was conducted on prisoners, a practice that was halted in the mid-1970s after bad press resulting from drug company executives' admission that prisoners were cheaper to use than chimpanzees. In 2006, the Institute of Medicine once again allowed research on prisoners with certain safeguards, and by 2009, some jurisdictions were allowing prisoners to be compensated for their participation.

Our legacy of infamous research includes the Tuskegee Syphilis Study, a longitudinal study of untreated syphilis in almost 400 African-Americans. The researchers failed to treat victims under the racist assumption that somehow syphilis behaved "differently" in Blacks, and that penicillin, known to treat all stages of syphilis, would somehow not be effective. By 1972, 28 subjects had died of syphilis, 100 were dead of related complications, 40 wives had been infected, and 19 children were born with congenital syphilis. It took a newspaper report that year to draw attention to the study, which was quickly terminated. A lawsuit concluded with a \$9 million settlement, with \$37,000 paid to living subjects with syphilis, \$5,000 to the subjects' 6,000 descendants, and lifetime medical benefits to subjects and their wives and children who were infected with syphilis. In 1997, President Clinton formally apologized on behalf of the U.S. government.

The Tuskegee Study was sponsored by the US Public Health Service. When he was interviewed in 1976, Dr John Heller, Director of Venereal Diseases at the USPHS between 1943 and 1948, said (employing the same dehumanizing rationale of Hallervorden): “The men’s status did not warrant ethical debate. They were subjects, not patients; clinical material, not sick people.”

Between 1946 and 1948, U.S. researchers in Guatemala deliberately infected 1,308 prisoners, military conscripts, prostitutes, orphans (provided by Sisters of Charity), and mental health patients with gonorrhea and syphilis. Eighty seven percent of those infected were treated, but investigators lost track of the rest. Identifiable wives, children, and grandchildren of subjects were ultimately treated, but sexual contact tracing was not performed. The study was approved by the Guatemalan government, which received funds for resource-starved institutions in return. Subjects received cigarettes for participating. The U.S. apologized in 2010, spent \$1 million to study research ethics, and gave \$775,000 to fight sexually-transmitted infections in Guatemala. A class action lawsuit against multiple parties, filed on behalf of 700 victims and their relatives, is currently working its way through the courts.

The research coordinator for the Guatemala study, Dr. John Cutler, excused the unethical nature of the programs, stating “Unless the law winks occasionally, you have no progress in medicine.” Cutler also oversaw the Tuskegee Syphilis Study, after Heller, and in the 1960s served as acting dean at the University of Pittsburgh.

In the 1950s, the U.S. government also sponsored human irradiation experiments, carried out at the University of Rochester’s Strong Memorial Hospital under the direction of Dr Wright Langham. The CIA’s MK Ultra program experimented with LSD, sensory-deprivation, and electroshock. The Pentagon and CIA’s Edgewood Arsenal Experiments involved more than 7,000 soldiers who were deliberately exposed to at least 250 biological and chemical agents, including sarin and VX, along with LSD and Ritalin. Serratia bacteria were deliberately released over San Francisco Bay and radioactive cadmium over St. Louis to study their windblown distribution.

In 1963, Dr. Chester Southam injected tumor cells into extremely infirm patients at

Jewish Hospital for Chronic Disease in New York without informing them. He was later elected President of American Association for Cancer Research.

In the mid-1960s, mentally-disabled children at the Willowbrook Hospital on Staten Island were deliberately fed cereal laced with centrifuged stool containing hepatitis A, to study the disease’s course and possible treatments, using the rationale that newly admitted children inevitably developed hepatitis A anyway. Results of this study were published as the lead article in an issue of the prestigious New England Journal of Medicine.

Writing in the same journal in 1966, anesthesiologist Henry Beecher documented numerous published studies involving ethical breeches from the preceding few years. These included the deliberate non-treatment of streptococcal-infected patients, which can lead to rheumatic fever and post-streptococcal kidney failure; unconsented, deliberate manipulations of internal organs under anesthesia to assess physiological responses; and the intentional injection of cancer cells into healthy patients. While Beecher did not name the specific studies, most readers would have been generally familiar with at least some of them. The formal unmasking of the researchers in 1991 received little public attention.

In 1963, psychologist Stanley Milgram wondered how the Nazis could convince so many ordinary citizens to participate in the Holocaust. Milgram performed revealing experiments which illustrated average people’s willingness to follow orders, even to the point of causing severe pain, unconsciousness, and possibly death to others.

Less is known about Soviet medical experimentation abuses, but during the Cold War, Soviet psychiatrists frequently medicated those who were not mentally ill, but merely dissidents.

Contemporary abuses of research conduct include the unethical use of placebo controls, in studies involving the effects of anti-HIV medications on maternal-fetal transmission of the virus in sub-Saharan Africa; and surfactant for neonatal respiratory distress syndrome in newborns in South America. When an anti-meningitis drug was tested in Nigeria, the control group received an inadequate antibiotic dose, likely to make the investigational agent appear to

be more effective. Just a few decades ago, other investigators used neonatal placebo controls, who were denied analgesia for obviously painful procedures such as circumcision.

Recently, researchers have studied nerve-sparing clitoroplasty as a substitute for female genital cutting (both of which are prohibited in this and many other countries); a European study, funded by Volkswagen, Daimler, and BMW, exposed healthy volunteers to nitrogen dioxide gas; and in 2018, volunteers in the Netherlands were exposed to Schistosomiasis larva, which were rendered incapable of reproduction, yet could still cause an acute reaction known as Katayama Fever. Remarkably, the Food and Drug Administration still allows tests of pesticides and other toxic chemicals on non-pregnant adults, albeit with “safeguards”.

Today, given the lack of national health insurance in this country, many uninsured become research subjects simply to receive needed medical care, an ancillary benefit of most trials. Others become human guinea pigs or professional lab rats to make money. These practices can undermine the integrity of studies when subjects exaggerate symptoms; pretend they have a health problem; or fail to disclose concurrent enrollment in another study, certain health problems, prescription drug use, or recreational drug use. A universal clinical trials participant database would help prevent such problems.

Today, the vast majority of research dollars are spent on diseases, and leading to discoveries which will benefit, the world’s wealthier countries, usually at the expense of neglected tropical diseases, research relevant to special populations such as cultural minorities and prisoners, and research on public health and social justice. A large majority of phase 3 US drug company trial take place outside the U.S., many in developing countries, where participants are less likely to be able to afford drugs proven useful. For-profit institutional review boards continue to review ethical standards for new studies, despite their obvious conflicts of interest.

Understandably, only 40% of US citizens have a positive overall impression of clinical trials. As such, many researchers have difficulty enrolling enough subjects. Only 4% of cancer patients enroll in clinical trials each year. Women and minorities are under-represented in clinical

trials. Racial and ethnic minorities are often wary of participation in medical experiments, which is not surprising given the legacies of Tuskegee and Guatemala. Others might be deterred by stories of massive drug company fraud and usurious profits or by shady industry payments to physicians. Most clinical trial participants are never informed of trial results, and the proprietary nature of some data may deter altruistic volunteers. And while research fraud is rare, revelations of fraud damage the entire research enterprise.

While a study from a decade ago showed that most medical students received very little education regarding the Geneva Conventions, today institutions are spending more time on research ethics, even requiring investigators to take courses on human subject and privacy protections.

The purpose of this essay has been to educate viewers regarding disturbing elements of the history of human subject experimentation, not to discourage individuals from enrolling as research subjects, as there are both direct benefits to participants as well as the altruistic gift such participation offers to humanity. Progress in medicine and science depend on the generosity of human volunteers. For those who do participate, make sure you understand your rights and obligations, which should be thoroughly spelled out in consent forms.

The lessons from this essay are especially relevant today, when our country is run by a racist, xenophobic, classist, homophobic, willfully and proudly ignorant, misogynistic admitted sex offender and war-mongering, unstable, sociopathic narcissist who supports dictators and demagogues over democratically-elected leaders. Donald Trump represents a threat to democracy, freedom, and human rights both at home and worldwide. He has tolerated, and in some instances encouraged, violence against journalists, as well as immigrants and other marginalized populations. His words and actions mimic those of the early Nazis, and we should all be disturbed at what they might portend for the future. Indeed, neo-Nazis and far right extremists have become increasingly politically active here and abroad.

Thus far, doctors have not been significant participants in Trump’s agenda; indeed, many have spoken out against his rhetoric and policies. Nevertheless, history has shown that under certain

circumstances, the behavior of groups and individuals, including those from the educated, professional classes, can change rapidly and facilitate gross human rights abuses.

The people of this nation, if we are to preserve the ideals enshrined in the Constitution, save our democracy, and promote world peace must increase their resistance to the policies of this dangerous individual and his cronies in corporate America, faux journalistic outlets like Fox News,

and so-called evangelical Christianity. Doctors, with their knowledge of the effects of Trump's policies on human health and the environment, can and should play a significant role in this resistance and transformation. Indeed, the World Health Organization has stated that "The role of the physician ... in the preservation and promotion of peace is the most significant factor for the attainment of health for all." Won't you join me.

