

# Research on humans during the Nazi era and its influence in the research nowadays

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## Research during Nazism

### The third Reich's concepts for research

- Racial hygiene and eugenics: lives not worth living
- Freedom in research and supply
- International leader in research

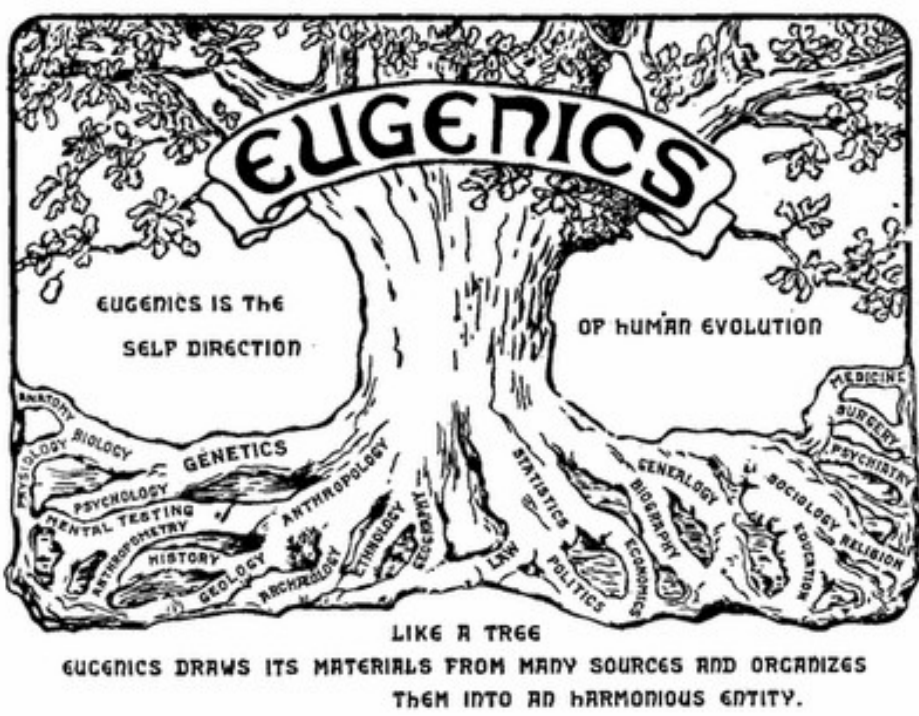


- Sterilization
- Euthanasia Program (T4 Aktion Program)
- Anatomical studies in institutes and universities
- Pharmacological tests
- Military experiments
- Ad hoc experimentation

Germany went down from leading the international research to mainly investigating on eugenics, military experiments or drug testing for the pharmacological industry.

Advances in production of chemical warfare, barbiturates (euthanasia), sterilization methods (X rays), organophosphates (Zyklon-B)

Nazis feared that the "inferior traits" would stain the fitness of the Volk, and applied the T4 Aktion program



This is how it would end.  
Propaganda of racial hygiene



Banners from the T4 Aktion program

Chemical name	Common name	Acronym	Chemical structure
Ethyl-N,N-dimethyl-phosphoramidocyanidate	Tabun	GA	
Isopropyl-methyl-phosphonofluoridate	Sarin	GB	
Cyclohexyl-methyl-phosphonofluoridate	Cyclosarin	GF	
Pinacolyl-methyl-phosphonofluoridate	Soman	GD	

Table 1. Nerve agents developed by German scientists during the Third Reich



Container of Zyklon-B heading to Auschwitz

## Nuremberg Doctors Trial

Judgement of 23 physicians that worked for the party for committing crimes against humanity

### Nuremberg Code

10 articles ruling human experimentation

- Compulsory informed consent
- The study must bring fruitful results for society
- Designed and based on animal results
- Always try to avoid physical or mental suffering
- No study is done if there is a death or disability risk
- The risk and results importance must be balanced
- Proper equipment, preparations and facilities to avoid injuries
- Only scientifically qualified people can lead the experiment
- The subject can put an end to the experiment any time
- The leader must put the experiment to an end if there is a possibility of injury



Nuremberg's doctors trial, on October 1946



I.G. Farben complex, also judged in its own trial

## International research

Convenient misunderstanding of Nuremberg code worldwide

Unethical experiments in USA, Japan, Australia, Argentina...

- Human vivisection
- Forced sterilization
- Inoculation of infectious diseases



## Tuskegee case

- 40 years of study: 1932-1972
- 399 syphilis cases with no treatment
- 201 healthy controls

## Conclusions

Some scientists, when left the freedom, take advantage of the situation for personal academical gain over the ethical behavior. That is why the guidelines must be followed to avoid repeating the mistakes of the past.

Research and ethics must work together for a proper relationship that brings development that is worth the effort. But research, medical treatments and ethical protocols should not be influenced by non-professional people that are not involved in these areas.

There are many influences related to the scientific research involving subjects, for example, the economical one, that make people offer themselves as subjects for the economical gain. This is why the guidelines specify the suitable people to volunteer to avoid the results being biased.

For the scientists, there is also the pressure of publishing because nowadays the number of publications are used for measuring ones capacity, and that is something that concerns every professional that should avoid lowering the studies results quality so that they get to publish more and faster.

## Helsinki Code

New international guideline in 1964 after the lack of enforcement of Nuremberg's

- Refined regulation that involves all biomedical research
- Priority of wellbeing of subjects over succes of research
- Separation of therapeutic and non-therapeutic research
- Separates function of researchers from physicians

Multiple reeditions adding additional contents

- Placebo regulation
- Continuance of treatment guaranteed

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