

Edwin Black's IBM and the Holocaust

a book review *

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In February 2001 the journalist Edwin Black released his book *IBM and the Holocaust. The strategic alliance between Nazi Germany and America's most powerful corporation* ¹. It came overnight: Simultaneously published in 40 countries and 10 languages without any upfront announcement. The book was a stealth project: *More than 100 people, in a multinational team, sworn to secrecy* ⁽¹²⁾, helped the author to assemble *more than 20,000 pages of documentation from fifty archives* ⁽¹³⁾. One day later IBM put a statement on its company website ².

What is the book about? Firstly it accuses the American IBM for its business with Germany throughout the Third Reich. Under this light, it is American (business) history. Secondly it tries to link census and Holocaust. Thirdly it analyzes the role of IBM's punchcard machines in second world war and genocide. To this degree it is a book about European history.

Black's J'accuse is tough: *IBM, primarily through its German subsidiary, made Hitler's program of Jewish destruction a technological mission the company pursued with chilling success* ⁽⁸⁾.

IBM and Dehomag In the late 19th century the Germany born Hermann Hollerith invented a punch card based tabulating device which significantly improved the performance of the 1890 US census. Hollerith retired in 1911 after having helped to build the German based independent Deutsche Hollerith Maschinen Gesellschaft Dehomag in 1910. The US company formed the center pillar of the newly created CTR, which became IBM in 1924. The German Dehomag became an IBM subsidiary in a hostile take over within the same year.

To analyze the role of IBM, strictly speaking, two entities have to be reviewed: The American IBM with all its European subsidiaries and the German subsidiary Dehomag. The American branch was run by Thomas J. Watson; the German by Willy Heindinger.

*London, 06/03/2001. References to the book are given by pagenummer in subscript ().

Soon after the Hitler took power, Heidinger approached the Nazis and praised his company: „*The physician examines the human body and determines whether (...) all organs work to the benefit of the entire organism*“. Dehomag was „*very much like the physician (...) We report every individual characteristic (...) on a little card (...). We are proud that we may assist in such a task that provides our nation’s Physician (Adolf Hitler) in such a task with the material he needs for his examinations. Our physician can determine whether the calculated values are in harmony with the health of our people. It also means that if such is not the case, our Physician can take corrective procedures to correct the sick circumstances*“⁽⁵¹⁾. With success Heidinger got Dehomag into business with the Reich. From 1934 to 1939 he managed to double Dehomag’s net assets from RM 7.2 million to RM 14 million⁽¹⁶⁴⁾. Due to the 90% ownership of Dehomag IBM New York strictly controlled the German subsidiary: *For, in truth, from 1933 until the summer of 1940 Watson personally micromanged virtually ever Dehomag decision*⁽¹³¹⁾. Strange enough, the American business could stay in Germany, and even claim to be ‘aryan business’: due to the 10% ownership of the German Heidinger. IBM New York heavily traded with Nazi Germany, and as Price Waterhouse stated *this was most unusual and they did not know of any other foreign concern who had the same privilege*⁽¹⁵³⁾. Since cash exchange was prohibited, IBM invested the revenues in property⁽¹²³⁾.

The cooperation peaked, when Watson came to Germany in June 1937 and met with Hitler himself and even received a medal⁽¹³¹⁾. But things started to change. The relationship between Heidinger and Watson was always more that stressed. The first was more than eager to cut the lines with America. From 1935 onwards Dehomag could print its own punch cards and did not rely anymore on American imports⁽²⁰⁹⁾. Because of strategic value the Reich decided to control Dehomag by the Maschinelles Berichtwesen department⁽¹⁵³⁾.

The break came in 1940 when Watson returned his medal: The German subsidiary refuses to cooperate with the American headquarter. But IBM New York did not care very much as long as their assets where protected and audited. This was the case and back in Germany in 1945, IBM identified 2348 machines for recovery and claimed these assets back⁽⁴¹⁸⁾. The Sindelfingen Dehomag plant was found intact in April 1945 with a million cards on stock, ready to start business⁽⁴⁰⁷⁾.

Census and the Identification of Jews *I was haunted by a question (...). The Germans always had the lists of Jewish names. (...) SS would burst into a city square and post a notice demanding those listed assemble the next day at the train station for deportation to the East. But how did the Nazis get the list*⁽¹⁰⁾? Black’s answer: The German census in combination with powerful IBM tools. Due to Black the *repeated references to census operations were simply overlooked* in current research⁽¹⁵⁾. That is not entirely true: the topic was addressed in 1984 by the German scholars Götz Aly and Karl Heinz Roth, and indeed, this work is highly valued and quoted very often by Black³.

Black describes the obscure desire of the Nazis to identify Jewry first by religion, later, after this term had been defined 1935, by 'race'. This was a hard task since German Jewry was highly assimilated by 1933 and *101 percent German, first and foremost* (54). The same held for the western European countries, esp. the Netherlands and France (293).

The Nazis ordered in late 1933 to scan household by household 41 million people for the Prussian census. They asked, among others, questions about religion and mixed marriages. The results were stored on punchcards: column 22, row 3 for (mosaic) Jew (55–58).

The identification of 'racial Jews' was much more complicated since baptized, former Jews, would not register 'Jew' under religion. Black points out the gloomy role of the churches *which were among the leading sources of such information* (155): It was sufficient, as one statistician put it 1934, *to check the change of denomination in church registers and registry offices for the last 130 years* (103). The eager Pastor Stich of Bautzen even approached the Reichssippenamt and *asked for larger index cards* and made clear that his church was „glad to serve the cause and ready to do the job right“ (155). In 1939, after the annexation of Saar, Austria and Sudetenland, a second census was carried out: now on the entire Reich. Within here it was asked *whether any of the individual's grandparents was Jewish* (139). The result was 330,539 'racial Jews' (169–173). Black reports an interesting example, when comparing the France and Netherlands census (292–332). The census operation in France was sabotaged, since erroneously handed over to men, which later turned out to work for the resistance. Their main task was, as Black claims, to prepare the French mobilization and not to identify Jews (329). The hit-rate of the Germans when trying to round up French Jews was frustratingly low. The Jewish death toll of the Netherlands, where the census went smoother, was significantly higher (73%) than in France (25%). The highly effective round up of dutch Jews was noted by researchers before, but up to the study from Aly and Roth, now followed up by Black, there was no convincing explanation ⁴.

In Black's eyes the first and all time (and sometimes it reads, sole) goal of the Reich was the extermination of Jews. Consequently he sees the main purpose of the census to serve that end ⁵.

Particularly under the light of recent research this is not entirely true. The first aim of the Nazis was to crash the political opposition and expel Jews from Germany after having destroyed their citizenship. The extermination was not planned before 1941 ⁶. The role of census may be questioned at all and it seems, at least, that it is overstated by Black. In Germany and western Europe the identification was much more micro-managed on a local basis than Black alleges. It was up to the Gestapo, to identify regionally, man by man, the Jews and prepare the list for the deportations. The round up was based on local information and *not* on data gained by a rough nationwide census ⁷. Even Black gives nowhere in his tome any evidence on local Gestapo using census data when preparing the *list of names*.

The *lists of names* had already been compiled long before the results of the 1939 cen-

sus were published in 1942(!). A recent work on the Gestapo, for example shows that in the town of Krefeld as early as 1935 *at least one member of each Jewish family had a police file* ⁸.

It is important to bear in mind when judging Black's statement on the *entire* Holocaust that from 1933 to 1939 the German Jewry had already lost 56% of its about 500,000 population in Germany through emigration (1939 about 330'000 Jews in the entire, now, Großdeutschem Reich plus about 138'000 of 'non-aryan' Christians) ⁹. The number of this men, which could have been potential targets of the census, has to be set into relation to genocide's total death toll.

Raul Hilberg, one of the most senior Holocaust researchers, explicitly rejects Black's thesis that census was carried out to generate deportation lists. From his point of view census was intended to yield statistical overview only ¹⁰. The Nazi officials, for example, had to correct their weird guesses of about 1'500'000 'racial Jews' in the Reich down to 300'000 ⁽¹⁷²⁾. Indeed Black mentions other roles of census, e.g. for preparation of conscription and war, but only in some lines ⁽¹⁷⁰⁾. Sybil Milton, former senior historian at the Washington Holocaust museum research institute, doubts that census was used to generate individual deportation lists. She judges that the census lists were only used as back up for cross checking the locally prepared individual deportation lists ¹¹. The retired IBM Germany employee Friedrich Kistermann, specializing in the history of technology, said, that the census never was used to target individual persons. Instead it was only used to generate overviews ¹². Another researcher, William Seltzer, of the Social Research Institute of Fordham City, New York, raises the point that census was used to generate *hot spot maps* of Jewish population to facilitate persecution and apprehension. This seems to have been the case in the Netherlands. But never individual list have been generated in this way ¹³.

In Eastern Europe, esp. the rural areas of Russia, where the highest Jewish kill rates occurred, certainly census did not play a role. Usually neither census nor the alleged *list of names* did exist upfront. Black does neither mention the round up of Jews in the East nor the Einsatzgruppen death squads. He focuses on the West only. Therefore his judgments only could claim validity for the latter whereas he does not mention that explicitly.

The identification of Eastern Jews process was rather simple since the Jewish population lived segregated from the population, comparable to the status of mosaic Jews in Germany before the assimilation started in about 1750. Einsatzgruppen smashed into the main centers and rounded up the Jews with the enforced help of members of the Jewish communities. Later they returned for 'fine-tuning' in the rural areas ¹⁴.

The Hollerith Machine The prussian 1933 census was carried out using IBM machines after having agreed with the Reich on a RM 1.35 million contract. Black insists that *the prussian government itself was completely incapable of launching such a massive undertaking. But IBM's Dehomag was* ⁽⁵⁵⁾. This may hold true given the unquestiona-

ble processing power of the machines. The machines could sort, cross index and later alphabetize. To a certain degree they were the ancestor of today's computers.

In the early 1930s *Hollerith technology had become a German administrative way of life* ⁽⁸⁷⁾: Reich government offices (Reichsbahn, Reichspost, Luftwaffe, etc) as well as industrial firms (Siemens, Daimler-Benz, I.G. Farben, etc) ⁽⁸⁷⁾ widely used it.

Later in the war the Wehrmacht utilized Hollerith machines for a various range of applications: material inventory, injuries, details of aviator combat, etc. This is, when Black states *IBM had almost single-handedly brought modern warfare into the information age. Through its persistent, aggressive, unflattering efforts, IBM virtually put the „Blitz“ in the „Krieg“ for Nazi Germany. Simply put, IBM organized the organizers of Hitler's war* ⁽²⁰⁸⁾. The IBM technology became a crucial backbone of the Nazi administration: *Without the punchcard technology, Nazi Germany would be completely incapable of even a fraction of the automation it had taken for granted* ⁽²²⁵⁾.

Eichmann acknowledged the IBM systems used for the 1934 Austrian census because it was possible *to find any card thanks to the system of punch cards. All information important for Austria was entered on these cards. (...) Each card carried name, address, party membership whether Jew, Freemason or practising Catholic or Protestant; whether politically active (...)* ⁽¹⁴²⁾. The Reichssippenamt and the Reichssicherheitshauptamt both used Hollerith systems ⁽¹⁵⁶⁾.

The 1939 Reich census, based on a RM 3.5 million contract, was carried out with the help of nearly 1000 IBM devices and 80 million 60-column punch cards (1 card per person). The special D-11 VZ could count 12,000 cards per hour and print reports on 80-column punchcards, which themselves would serve as input in follow up operations. 25 million so called Supplemental Cards (1 card per household) recorded the *individual's bloodline data and functioned as a racial linchpin of the operation*. The total processing power peaked at 1,000,000 cards per day ^(170–171). Later the Reich captured in Austria several even more powerful IBM 405 machines. They could create alphabetized lists and *calculate 1.2 million multiplications in just 42 hours* ⁽¹⁸¹⁾.

Nearly every Nazi concentration camp operated a Hollerith Department known as the Hollerith Abteilung. In some camps, such as Dachau or Storkow, as many as two dozens IBM sorters, tabulators and printers were installed. Other facilities operated punches only and submitted their cards to central locations such as Mauthausen or Berlin. IBM's equipment was almost always located within the camp itself ⁽³⁵²⁾, consigned to the Arbeitseinsatzbüro.

The major (concentration) camps were assigned Hollerith code numbers for their paperwork: Auschwitz ... 001; Buchenwald ... 002; Dachau ... 003 (...) ⁽³⁵²⁾. Black claims that a significant part of the camp management was done using punch card technology. Camp inmates were punch card registered: *political prisoner 1, Bible researcher 2, homosexual 3 (...), Jew 8, (...)* ⁽³⁶²⁾. In January 1944 the Zentral Institut was established which tracked concentration camp inmates on punch cards. It recorded per concentration camp, e.g. „Abgangslisten“ ⁽³⁶⁰⁾. This would include coding on Hollerith for *Death by natural causes: C-3, execution: D-4, suicide E-5, special treatment F-6*. And F-6

was the euphemism for *extermination, either by gas chamber or bullet* ⁽³⁶⁵⁾. Slave work for German industry was organized, audited and cash settled using Hollerith devices ⁽³⁵⁹⁾.

Not only the camp itself (as and end) but the as well the *means* have been organized using this technology: *The prodigious task of efficiently scheduling deportation from cities and ghettos in many countries, the daily work assignments, and outright extermination timetables would have been impossible without the daily strength reports* ⁽³⁶⁰⁾.

Black sheds some light on a topic which has not been recognized by a wider audience: (punch card) computing devices and genocide. As Norbert Benz, head of Zentrum für Antisemitismusforschung, put it, technology history was never taken seriously by historians ¹⁵. Black is not the first who addresses that topic. Some key findings were published by Aly and Roth in 1984 ¹⁶. A wider discussion was started in the 1990s when the Holocaust Memorial Museum included an IBM Hollerith D-11 device in its exhibition. Already 1998 Merry Eisenstadt published in the Washington Jewish Week an article titled *IBM's role in the Holocaust*.

There are problems: Firstly, to which degree can the findings be generalized? This is crucial. Not all ties are linked together. Especially the testimony on the most crucial topic, the extermination and the camps, is rather crude: only about 25 pages out of more than 400. It is often not clear to the reader if the finding relates to one camp only, to most, or as usually implied, to all.

Secondly the question on validity can be raised. The head of the Auschwitz memorial center, Francis Piper, states that *no* Hollerith department existed in the camp (what Black implied by referring to Auschwitz cards ⁽³⁶⁴⁾) ¹⁷. But generally speaking there is no concern about the usage of Holleriths in some camps. Milton explicitly states *Once you got into the concentration camps, then Hollerith tabulation was definitely used* and quotes a Mauthausen tracking reports ¹⁸. On the other side there is no direct evidence given, that the Holleriths were indeed used in preparing or generating the *list of names*. This remains a thesis of Black.

There is some concern about the Wannsee conference. Black makes some flaky statements (the attendees were third tier, not *Hitler's key lieutenants*) and alleges that the information database used for the meeting have been processed by Hollerith systems ⁽³⁶⁶⁾. This contradicts the current research status which quotes Jewish organizations (e.g. Jüdische Kultusgemeinde Wien or jüdische Reichsvereinigung Berlin) as source for the figures. These organizations did not possess any IBM devices ¹⁹.

The hot topic *list of names* seems rather unprecise: It is implied that Hollerith name processing was applied, but then it turns up that the name and address was handwritten, at least in some cases (e.g. *comparing names* ⁽¹⁰⁷⁾ but *occupation and address were to be written on the reverse side* ⁽¹⁵⁶⁾). The IBM 405 was able to process names, but only a limited number of devices was available for the Reich (after 1939!) ⁽¹⁸¹⁾. In the Netherlands it was stated in 1941 that *the Hollerith punch card system is not suited for functioning as an alphabetic register since the cards are not punched by name, but*

by number. Punching alphabetically is possible, but there are so many technical difficulties connected with it (309). In 1942 the SS talks about that the Hollerith would be helpful and should be used, since *currently still* all was on files (225).

A technically interested reader might would like to gain more insight about how the Hollerith indeed worked. E.g. the Sebag-Montefiore 2000' book on Enigma code breaking comes with an extensive technical appendix. It does not seem to easy to store full names on a 60-column card.

Black explicitly states: *If you believe that somehow the Holocaust would not have occurred without IBM, you are more than wrong. The Holocaust would have been proceeded - and often did proceed - with simple bullets, death marches and massacres based on pen and paper persecution. But there is a reason to examine the fantastical numbers Hitler achieved in murdering so many millions so swiftly, and identify the crucial role of automation and technology* (11).

But exactly the later question is only raised, not answered in detail. Since Black focuses only on evidence of Holleriths, he misses the other bit. E.g. again, the Einsatzgruppen and Ordnungspolizei murder tasks, which at least accounted for half of the death toll are not mentioned at all. There is no comparative study between tasks which made use of the Holleriths and other which made not. This would be necessary to hold his claim.

Black's major accuse is for IBM, personally Watson, to have traded with evil for the sake of profit. Repeatedly quoting the New York Times from 1933 onwards he proofs that, indeed, it was hard to get the wrong picture on Nazi Germany. But on the other side it is important to bear in mind that the American business lost control over its German subsidiary already in 1940, i.e. before the Holocaust started. But Watson kept certain control over the other European subsidiaries via the IBM headquarter in Geneva.

Black highlights that in all the audits the purpose of the machines was never questioned. *From August 1940 IBM New York made sure it did not know most of the gruesome details of Hollerith use. It was better not to know* (236). Given the fact that as from around 1942 the American headquarter completely lost track, it may seem hard to accuse IBM for the war years. As later found, the records were faked and falsified (393). Germany itself made sure that no secret information would find its way to the enemy (251).

On the other side things for the German Dehomag were completely different. The company was run by 100% Nazis. They exactly knew with whom they were trading and for what. Neither IBM nor Dehomag ever sold machines: they leased it to the customers. They were programmed and maintained *on site* by specially trained IBM consultants. IBM machines could only run with specially designed IBM punch cards which were produced inhouse in a high quality procedure. Every card could only be used for its designed purpose. Therefore, and that is Black's convincing point, Dehomag was well aware what is going on (210).

Documenting the IBM and Dehomag company story with it links into the genocide is

by far the best and most convincing part of Black's work.

Generally speaking it seems unquestionable that Hollerith systems have been used in *some* concentration camps and that have played *some* role in organizing the genocide. But as far as it seems, they *neither* played a role in preparing the *list of names* for the deportations *nor* in the murder in the east.

Quoted References and Further Reading

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Peter Preston *Six million and Counting*. Review of Black. The Observer, 18/02/2001.

Ulrich Speck *Schwarzweiß*. Review of Black. Frankfurter Rundschau, 17/02/2001.

Notes

¹Edwin Black, *IBM and the Holocaust*. London: Little, Brown and Company, 2001. (519 pages. GBP 20).

²IBM

³Aly and Roth, Kater

⁴Kater, p. 2

⁵*But Jewish Life could only be extinguished if the Nazis could identify the Jews*⁽⁵³⁾; *(..) that Germany could only be cleansed of Jews until it identified them - however long it would take.* ⁽⁵⁵⁾; *(...) the Reich inculcated every program, with its maniac desire to eradicate the Jewish presence.* ⁽¹¹¹⁾

⁶see e.g. Hilberg, Burleigh

⁷see Hilberg, Johnson

⁸Johnson, p.92

⁹Cohn, p. 46

¹⁰Hilberg

¹¹Eisenstadt, p. 4

¹²Eisenstadt, p. 5

¹³Eisenstadt, p. 6

¹⁴e.g. Head of SD Amt III, Otto Ohlendorf. In Kühnl, p. 387. Burleigh, p. 650

¹⁵Prantl

¹⁶Aly and Roth, Kater

¹⁷Hilberg

¹⁸Eisenstadt, p.4

¹⁹Hilberg