



Milgram's obedience to authority experiments: Origins and early evolution

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Stanley Milgram's Obedience to Authority experiments remain one of the most inspired contributions in the field of social psychology. Although Milgram undertook more than 20 experimental variations, his most (in)famous result was the first official trial run – the remote condition and its 65% completion rate. Drawing on many unpublished documents from Milgram's personal archive at Yale University, this article traces the historical origins and early evolution of the obedience experiments. Part 1 presents the previous experiences that led to Milgram's conception of his rudimentary research idea and then details the role of his intuition in its refinement. Part 2 traces the conversion of Milgram's evolving idea into a reality, paying particular attention to his application of the exploratory method of discovery during several pilot studies. Both parts illuminate Milgram's *ad hoc* introduction of various manipulative techniques and subtle tension-resolving refinements. The procedural adjustments continued until Milgram was confident that the first official experiment would produce a high completion rate, a result contrary to expectations of people's behaviour. Showing how Milgram conceived of, then arrived at, this first official result is important because the insights gained may help others to determine theoretically why so many participants completed this experiment.

Beyond the fabric there is not only the loom and the weaver but also the weaving. Beyond the social pattern there is the play of forces emanating from the endless interaction of group and environment. By studying the fabric alone we could never understand the process of weaving, and we will never come to grips with the problem of social causation by studying its contemporary resultant patterns. – Robert MacIver (1933, p. 145, as cited in van Krieken, 1998, p. 27).

Stanley Milgram's Obedience to Authority (OTA) experiments are 'perhaps the most widely cited and provocative set of experiments in social science' (Miller, 1986, p. 1). Despite their ability to intrigue audiences across time and space, Milgram's (1974) only attempt to explain why most of his participants inflicted what they were led to believe were potentially lethal electrical shocks on an innocent person is widely believed to be

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This article developed from an earlier piece by Russell and Gregory (2005).

his book's 'weakest' section (Blass, 2004, p. 216). Nobody since has managed to bridge this gap, and as a consequence there is 'no conclusive theory to account for destructive obedience—or defiance, either' (Miller, 2004, p. 233). Even the *American Psychologist*, who in 2009 dedicated a full issue - 64(1) - to the OTA experiments, does not advance matters on the theoretical frontline.¹

Influenced by MacIver's above epigraphic statement, sociologist Norbert Elias (1987, p. 226) believed that in order to understand the social intricacies of any phenomenon - such as why most of Milgram's participants went to the end of the shock board - one must observe carefully the transformation of this phenomenon over time.² Thus, in the hope it might stimulate theoretical insights in others, this article will carefully delineate, from start to finish, Milgram's research journey that eventually led to the first official trial run's most (in)famous result. The key question I intend to answer is *how* did Milgram conceive of an idea then develop an experimental procedure that, by its first official trial, saw 65% of his participants inflict every shock? If successful in providing an answer as to *how*, over time, such a large proportion of participants came to do what they did, then perhaps this will provide a stronger ground upon which to overcome the enduring question of *why* they did what they did.

However, answering the *how* question is made difficult by the fact that Milgram's numerous OTA publications (1963, 1964, 1965b, 1974) focus mostly on presenting his experimental procedure and its end results; they reveal little on the journey that led to both. This two-part article will therefore trace the origins and early evolution of Milgram's OTA experiments by drawing on insights from both previous contributions to the literature and unpublished documents from Milgram's personal archive - the Stanley Milgram Papers (SMP) - at Yale University's Sterling Memorial Library.³ My aim is to shed new light on the inter-connections between Milgram's long-term interest in the Holocaust, his PhD thesis, and the powerful influence of both factors on the conception of the OTA experiments. Part 1 presents the key events, experiences, and people most likely to have contributed to the conception of Milgram's research idea. This section frequently draws upon the works of scholars like Blass (2004), but it also adds greater step-by-step clarity to this gradually evolving picture. Part 2 more uniquely explores Milgram's journey of discovery during the pilot studies in which he converted his inchoate idea into a reality. This section delves into the creative and learning processes Milgram relied upon to develop his first and most (in)famous remote condition's 65% completion rate.

¹ Miller (2009, p. 21) came closest by presenting a variety of potential explanations.

² When stating this Elias (1987, p. 226) really had much longer term processes in mind. However, because time is relative, the logic arguably holds true for shorter timeframes.

³ As outlined in the Guide to the Stanley Milgram Papers: Manuscript Group Number 1406, the SMP covers the period 1927–1986. The archive is arranged in five series: General Files (1954–1985); Studies (1927–1984); Writings (1954–1993); Teaching Files (1960–1984); Data Files (1960–1984). The five series contain information on Milgram's research into OTA, television violence, urban psychology, and communication patterns within society. The archive consists of both textual and non-textual materials (drawings, pictures, and a few boxes of audio tapes). For 2 months in 2006, I managed to peruse nearly all of the materials relating to the obedience experiments, including Box 1 (folders a–f); 1a (folders 1–15); Box 13 (folders 181–194); Box 17 (folders 243–257); Box 21 (folders 326–339); Box 43 (folders 124–129); Box 44; Box 45 (folders 130–162); Box 46 (folders 163–178); Box 47 (folders 179–187); Box 48 (folders 188–203); Box 55 (folders 1–22); Box 56 (folders 23–46); Box 59 (73–87); Box 61 (folders 106–125); Box 152; Box 153 (audio tapes); Box 154; Box 155 (audio tapes); Box 156; Box 157. It should be noted that some of the clearly relevant boxes - particularly from the Data Files series - could not be accessed due to privacy restrictions and will not be released until 2060 - unless one is willing to pay for its sanitization by Yale staff.

Part I: The historical origins of the OTA experiments

The Nazi regime came to power in Germany in 1933. In the same year, on 15 August, Stanley Milgram was born into a working class Jewish family in the Bronx in New York City. Throughout his childhood ‘Stanley was very much aware of his family’s worries about Nazi Germany. His father had family living in Europe, and he and Adele [Stanley’s mother] followed developments there closely on the radio’ (Blass, 2004, p. 8). Milgram’s awareness of the geographically distant persecution of the European Jews is evidenced in his precocious Bar Mitzvah speech, given on 15 August 1946:

As I come of age and find happiness in joining the ranks of Israel, the knowledge of the tragic suffering of my fellow Jews throughout war-torn Europe makes this also a solemn event and an occasion to reflect upon the heritage of my people - which now becomes mine (Blass, 2004, p. 8).

It is noteworthy that relatives who survived the Nazi concentration camps stayed in the Milgram household during 1946 (Fermaglich, 2006, p. 100) and that the speech preceded by only 2 weeks the 1 October 1946 verdict of the widely publicized 10-month-long Nazi war-crimes trial in Nuremberg, Germany (Marrus, 1997, p. 257).

After high school Milgram enrolled at New York City’s Queens College majoring in political science with a minor in the arts (Blass, 2004, p. 11). As an undergraduate, Milgram developed a fascination with foreign lands and peoples and their cultures. This interest was reflected in both his becoming president of the university’s international relations club and his decision in the summer of 1953 to embark on a backpacking tour of France, Italy, and Spain.

Before completing his BA with honours in 1954, Milgram had become interested in social psychology. He applied for a place in Harvard’s Department of Social Relations graduate programme (Tavris, 1974, p. 77). In his 12 April 1954 application, Milgram noted that it was ‘Periods of war I find particularly interesting’ (SMP, Box 1, Folder ‘a’, Titled: ‘Correspondence 1954’). His scholarship application indicated more specifically where this interest in war lay: ‘My estimates of my ability to undertake sustained, independent research was boosted by my writing, last semester, an honours paper (of formidable dimensions) entitled “The French Press Under the German Occupation” (SMP, Box 1, Folder ‘a’, Titled: ‘Correspondence 1954’). In Milgram’s first 2 years at Harvard the topic of national characteristics and stereotypes increasingly captured the young scholar’s imagination. This is evidenced by Milgram’s first-year lecture notes (Figure 1) when the renowned social psychologist, Gordon Allport, presented his class with an overview

Allport – 20 '55 Cross cultural method – National character

Content analysis of german plays.	[Indecipherable name] performed content analysis of 45 German and 45 American plays produced in 1927, analyzing content, themes.
Ideological destiny character-Fulfillment [sic]	German plays much more about men than women, much more ideological, social. American plays centered on private problems – German hero has rendezvous with destiny – must disregard personal problems. In American drama, hero is successful because his character changes. In German plays, ending may be tragic but his character is fulfilled.

Figure 1. Milgram’s notes from Allport’s lecture (SMP, Box 17, Folder 256, Titled: ‘Harvard University: Social Relations Department Course Notes 1954’).

of a cross-cultural study that performed a content analysis on a sample of German and American plays.

The left-hand margin of this document bears an asterisk underlined with three bold lines, which appears to signal an area of particular interest or importance. In 1956, Milgram read 100 or so articles and books on the topic of national characteristics and stereotypes while enrolled in a course headed by Roger Brown (Blass, 2004, p. 31).

A particularly influential figure on Milgram at Harvard was Solomon Asch. Asch (1958) was prominent in social psychology for having undertaken the Group Pressure/Conformity experiment. This experiment involved an instructor who informed eight men seated around a table that they were to assess which of three unequal lines presented before them matched that of a separately presented line (with the correct answer being obvious). Each was to express their assessment to the group, starting with the first participant and then moving around the table. However, not all was as it appeared: all except the seventh person in line were confederates. Sequentially, the 'participants' selected the correct answer. By the third trial (and randomly thereafter), the confederates gave the same - but this time clearly incorrect - answer. Asch was trying to assess whether or not the confederates' incorrect answers might have a conforming influence on the only actual participant. Thirty-two per cent of all the participants' assessments ($N = 50$) conformed to that of the confederates, meaning that they were providing answers they probably knew to be wrong (Asch, 1958, pp. 176-177). Asch confirmed that the individuals' provision of incorrect answers was actually due to the group's influence by presenting the line assessment exercise to randomly selected participants in the absence of the group ($N = 37$). This control experiment revealed 99% of all line assessments by lone participants were correct.

During the 1955/56 academic year Asch was invited to Harvard as a visiting lecturer and Milgram was assigned as his teaching assistant (Blass, 2004, pp. 27-31). Asch became Milgram's 'most important intellectual influence' (Tavris, 1974, p. 77). Soon afterwards, Milgram conceived of an experiment for the final part of his PhD: a procedural adaptation of Asch's conformity experiment. Instead of using pictures of lines, Milgram wanted to present individual participants with an auditory tone that they were to try and match up correctly with one of several others that soon followed. More specifically, a participant was to enter a laboratory and encounter a coat rack piled with jackets and a row of seemingly occupied closed booths, the sixth of which they were to enter. After putting on earphones and hearing the acoustic tones, the participant would hear the responses of the other participants. In fact, the other booths were empty and the responses were pre-recorded by actors. Like Asch's experiment, initially the other 'participants' would sequentially all give the obviously correct answer but eventually they started providing the same clearly incorrect answer.

In two ways, Milgram's adaptation was scientifically more rigorous than Asch's experiment. First, unlike Asch's prototype, the actors' taped responses were uniform and had therefore been scientifically standardized. Second, Milgram informed his participants that their responses would contribute to the improvement of air traffic safety signals, thus investing their performance with potentially 'life and death' consequences (Milgram, 1961, p. 48). This overcame a significant limitation of Asch's experiment. His conforming participants probably experienced little compunction in siding with the group because doing so had no significant consequences, given the trivial nature of the line judgment task.

However, the most innovative aspect of Milgram's adaptation was his intention to use participants from different countries. Reflecting the influence of Allport and Brown,

Milgram intended to undertake a cross-cultural comparison that would transform ‘the topic of national characteristics from armchair speculation to an object of scientific inquiry’ (Blass, 2004, p. 53). The countries that Milgram intended to include in his cross-cultural adaptation of Asch’s experiment were revealed in a preliminary hypothesis dated 24 September 1956: ‘(Now interms [*sic*] of the things I have read and seen, I would predict as follows: Conformity, as measured by the mean differences of pressured responses will be G[ermans] > E[nglish] > F[rench]’ (SMP, Box 43, Folder 125, Titled: ‘Norwegian + French Study: Notes & data analysis 1956–1958 nd’). Milgram’s reference to what he had ‘read and seen’ is intriguing. It is likely that what he was referring to was the common post-World War Two stereotype that Germans were highly conformist, as evidenced by their participation, broadly speaking, in the Holocaust.⁴

On 17 October 1956, Milgram informed Allport of the research idea he hoped to pursue for the final leg of his PhD:

In brief, I would like to write my thesis in 1957–58, on the subject of national character, and with you as my thesis director . . . For a long time I have had an interest in psychology as it applies to national groups. You may remember my somewhat tedious analysis of ‘national stereotypes’ written for your Social Psychology qualifying course in the spring of 1955 . . . I would like to run a variation of Dr. Asch’s group pressure experiment across several European countries, in particular, England, France, and Germany (SMP, Box 13, Folder 183, Titled: ‘Allport, Gordon 1954–1967’).

Allport’s response reveals that he agreed to be Milgram’s thesis director and saw potential in the idea but thought aspects of it naïve: ‘The design you outline is not feasible, I fear. Chiefly, the difficulty is your overly optimistic view of facilities, availability of subjects, European collaboration’ (Blass, 2004, p. 33).

On his return to Harvard, Allport convinced his student to scale down the idea to a two-nation comparison involving participants from the USA and Norway. Including a US sample made obvious sense in terms of feasibility and logistics. Norway was probably chosen because English was widely spoken there and Allport had strong contacts at Oslo’s Institute of Social Research (Blass, 2004, pp. 33–34).

During the summer of 1956 Milgram undertook pilot studies on a sample of USA participants (Harvard students) that produced high rates of conformity. In his first official research proposal, Milgram predicted that Americans would conform more than Norwegians. However, after collecting the Norwegian data throughout 1957, Milgram discovered that the Scandinavians were little different from his USA sample. Milgram’s prediction of greater Norwegian independence was wrong and he needed to find a more interesting comparator nation than the USA. According to Blass (2004, p. 41):

France came immediately to mind. His experience living in Paris during the summer of 1953 suggested that France was a country marked by far less social consensus than Norway, a country with a tradition that seemed to prize critical judgment and diversity of opinion. ‘France seems to me to be a very good bet,’ he wrote Allport.

However, in the sentence immediately preceding the statement that ‘France seems to me a very good bet’, Milgram also said: ‘Germany would be highly interesting, but I cannot

⁴Dicks’ (1950, p. 137) study of German prisoners of war is an example of the kind of literature that may have promoted this view: ‘Conformity and “loyalty”, as of a servant to his master, are rated among the highest of virtues, and demonstratively stressed in home and institutional life, almost synonymous with “honour” on the one hand and with unquestioning obedience on the other’.

handle the language' (SMP, Box 13, Folder 183, Titled: 'Allport, Gordon 1954-1967').⁵ This statement is noteworthy because Milgram had long suspected that Germans would be highly conformist. If his suspicion was correct, a German sample might be as dull a group as the Americans with which to compare to the conformist Norwegians. Yet, despite this, something drew Milgram to think again about undertaking his experimental procedure on what he expected to be a sample of highly conforming Germans.

In August 1958, Milgram went to France and collected the French data (Blass, 2004, pp. 48-50). A letter Milgram wrote from France to a friend at Harvard illustrates that the Holocaust was never far from his thoughts:

I should have been born into the German-speaking Jewish community of Prague in 1922 and died in a gas chamber some 20 years later. How I came to be born in the Bronx Hospital I'll never quite understand (Blass, 2004, p. 46).

Although Milgram undertook in both countries five subtle variations on his basic research idea, the results revealed that on average the Norwegian and French participants conformed about 62 and 50% of the time, respectively. This was a statistically significant difference (Blass, 2004, p. 51). Particularly impressive was that, although across each of the five variations the degree of conformity differed, the *direction* of this difference – Norwegians conforming more than the French – remained consistent throughout.

On returning to the USA, Milgram accepted an offer from Asch to edit his latest book on the topic of conformity while the latter was on sabbatical at Princeton University. In several ways, Milgram's time at Princeton ended most fruitfully for the young scholar. First, far from Harvard's many distractions, Milgram was able to write rapidly and submit his PhD dissertation on time. Secondly, the subsequent glowing reviews of his thesis in conjunction with having referees like Allport (and other Harvard heavyweights), as well as the prestige of working with Asch, resulted in Harvard and Yale Universities offering Milgram academic positions. Milgram accepted Yale's offer as an assistant professor of social psychology starting the following September 1960. Thirdly, Milgram started (or soon thereafter) writing an abridged version of his thesis that was later accepted for publication in *Scientific American* (see Milgram, 1961). In the article, Milgram announced a return of his attention to those who interested him most – the Germans:

We are now planning further research in national characteristics. In a recent seminar at Yale University students were given the task of trying to identify behavioral characteristics that might help to illuminate the Nazi epoch in German history . . . A team of German and American investigators is planning a series of experiments designed to provide a comparative measure of behavior in the two countries (Milgram, 1961, p. 51).

Funding issues prevented the project going ahead. Nonetheless, a year later Milgram was still trying to solicit contacts in Germany in the hope of one day converting his German/American cross-cultural adaptation of Asch's experiment into a reality.⁶

Also around this period Milgram expressed an explicit awareness that success in academia would require that he undertake 'an important and distinctive programme of research with which to make his mark. He told Roger Brown that he hoped to find a

⁵Milgram repeated this statement verbatim two days later in a letter to Harvard lecturer Jerome Bruner (SMP, Box 1, Folder 'e', Titled: 'Correspondence 1958').

⁶See the April 1962 correspondence between Robert Arndt (from Germany) and Milgram (SMP, Box 55, Folder 5, Titled: 'Nationality and Conformity: Correspondence 1961-1962').

phenomenon of great consequence, such as Asch had done, then “worry it to death [italics added]” (Blass, 2004, pp. 61–62). Such ambitions were soon realised with the fourth significant outcome from Milgram’s time at Princeton: the rudimentary conception of his landmark idea to pursue an experimental programme on OTA. The following is Milgram’s own account of this process:

I was working for Asch in Princeton, New Jersey, in 1959 and 1960. I was thinking about his group-pressure experiment. One of the criticisms that has been made of his experiments is that they lack a surface significance, because after all, an experiment with people making judgments of lines has a manifestly trivial content. So the question I asked myself is, How can this be made into a more humanly significant experiment? And it seemed to me that if, instead of having a group exerting pressure on *judgments* about lines, the group could somehow induce something more significant from the person, then that might be a step in giving a greater face significance to the behavior induced by the group. Could a group, I asked myself, induce a person to *act* with severity against another person [italics added]? (Evans, 1980, p. 188).

Milgram clearly intended to raise the stakes from those in his PhD experiment, which was ostensibly to benefit air traffic safety. He became interested in somehow manipulating participants into engaging in physical ‘act[s]’ that had ‘humanly significant’ implications. That Milgram intended ‘exerting pressure’ on participants – a skill he had become well versed in during his PhD experiments – is an important point: he was toying with the idea of using group pressure to coerce participants into engaging in some other more significant behaviour. Milgram (1974, p. 148) later termed such sources of pressure binding factors (BF): powerful bonds that can entrap a person into doing something they might otherwise prefer not to do. Milgram then imagined a situation like Asch’s experiment, where a naïve participant was placed among a group of actors:

... instead of confronting the lines on a card, each one of them would have a shock generator. In other words, I transformed Asch’s experiment into one in which the group would administer increasingly higher levels of shock to a person, and the question would be to what degree an individual would follow along with the group. That’s not yet the obedience experiment, but it’s a mental step in that direction (Evans, 1980, pp. 188–189).

In an interview, Milgram described the next conceptual step that moved him closer to his OTA paradigm:

I wondered whether groups could pressure a person into performing an act whose human import was more readily apparent, perhaps *behaving aggressively toward another person*, say by administering increasingly severe shocks to him. But to study the group effect you would also need an experimental control; you’d have to know how the subject performed without any group pressure [italics added] (Tavris, 1974, p. 80).

Milgram was aware that Asch resolved the problem of requiring an experimental control by running the line judgment exercise on participants in the absence of the group. However, Milgram was this time unable to draw from Asch’s legacy because, as Miller (1986, p. 18) observed: ‘it was not obvious what the inducement would be for a solitary individual to administer shocks in increasing intensities to another person’. Milgram had to develop his own solution to this problem:

... my thought shifted, zeroing in on this experimental control. Just how far *would* [italics original] a person go under the experimenter’s *orders* [italics added]? It was an incandescent moment, the fusion of a general idea on obedience with a specific technical procedure.

Within a few minutes, dozens of ideas on relevant variables emerged, and the only problem was to get them all down on paper (Tavris, 1974, p. 80).⁷

Although this innovation provided Milgram with an experimental control, perhaps unwittingly it also introduced into the equation the new BF of a higher-status experimenter trying to impose their will on a lower-status participant within a hierarchical chain of command.

Nonetheless, this ‘incandescent moment’ to introduce ‘orders’ – believed by Blass (2004, p. 63) to have taken place sometime between 2 March and the end of June 1960 – was a watershed event. It initiated Milgram’s journey – and perhaps social psychology’s generally – in a direction away from Asch-like group behaviour and increasingly towards the individual’s response to the malevolent demands of an authority figure.⁸

But what were the origins of these new ideas to introduce ‘orders’ to ‘behav[e] aggressively’? Milgram seems to have founded his ideas upon what in the USA and elsewhere was a common post-World War Two stereotype that associated the occurrence of the Holocaust with blind OTA: ‘I came across many statements which implied that Germans tended to obey orders more conscientious[ly] than Americans’ (as cited in Fermaglich, 2006, p. 88).⁹

This stereotype stems from the Nuremberg war crimes trials of the surviving Nazi elite (Marrus, 1997). Most of those in the dock attempted to evade responsibility for their crimes by arguing that they were just following orders. Reasons for an apparently heightened German propensity to obey and enact the orders of superiors started to emerge in populist and academic sources of literature. Consequently, there emerged a post-World War Two OTA zeitgeist:

Before Milgram, creative writers had incorporated striking incidents of obedience into novels, poems, and screenplays. Historians had written factual accounts of remarkably obedient individuals and groups. Psychologists had developed *F-* and other scales to measure inclinations towards authoritarian tyranny and subservience (Elms, 1995, p. 22).

In fact, Blass (2004, p. 63) has argued it is ‘certainly possible’ that the catalytic event that stimulated Milgram to incorporate ‘orders’ into his rudimentary idea was the capture of the Nazi bureaucrat, Adolf Eichmann, in Argentina on 11 May 1960 (see Arendt, 1963). Eichmann argued at his trial that he only did as he was told (Cesarani, 2004, p. 277). So concurrent with Eichmann’s heavily publicized capture then trial, Milgram happened to be radically manipulating Asch’s study into ‘a humanly more significant experiment’ where participants received ‘orders’ to behave ‘aggressively towards another person’.

That Milgram’s idea was largely stimulated by preconceptions about Germans during the Holocaust is reflected in the following previously unpublished document, which was probably written while the young social psychologist was at Princeton, thus when he conceived of the OTA experiments (Figure 2):

⁷It should be noted that Milgram’s account here is post hoc and thereby may have been orientated towards a range of presentational concerns.

⁸Having said this, Milgram (1965a) still published the findings of a conformity variant of his obedience paradigm.

⁹This remark is reminiscent of Milgram’s formulation of the idea for his PhD; based on ‘the things I have read and seen’, he predicted that Germans would be more likely to conform than others. The aetiology of the apparently conformist or blindly obedient nature of Germans in populist and academic literature can be traced back to the justifications the Nazi war criminals, fearing for their lives, typically provided their captors after the war (see Footnote 4).

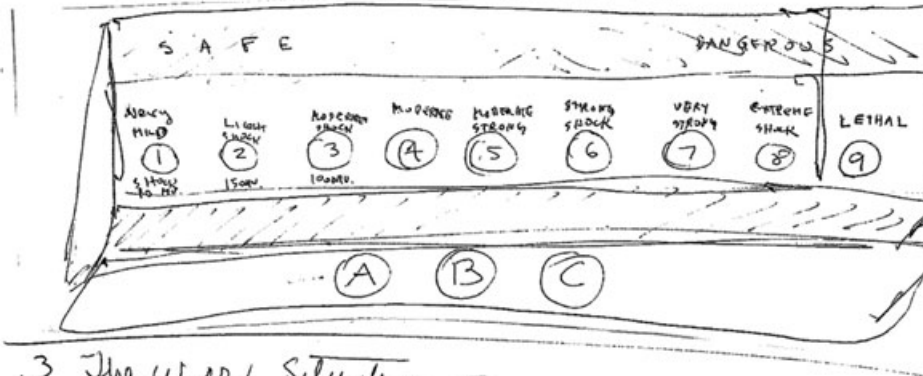


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1. Waiver of responsibility from experimenter - For Germany

2. Panel



3 The war situation -

2 new s's. One must shock the other -
1 way switch. Can be controlled by E.

④ Warring in teams:

⑤ The Pledge. Subjects pledge to obey. Because of certain possible hazards, the s. must adhere carefully to the instructions of the exper.



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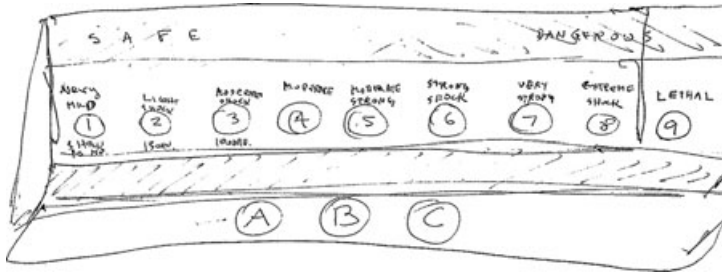


Figure 2. Milgram's idea for 'Studies in Obedience' (SMP, Box 46, Folder 165, Titled: 'Notes general, 1961-1962' [sic]). Note. The Sterling Memorial Library at Yale University has dated this document between 1961 and 1962. Yet the sketch of the shock generator is far more rudimentary than a drawing Milgram (1977, p. 95) himself dated 'Spring 1960', when he was at Princeton University. It would be reasonable to infer that this document was actually produced between March and June of 1960 during which Milgram's 'incandescent moment' took place.

Below (Figure 3) is the independent transcription of the above document:

Studies in obedience

1. Waiver [sic] of responsibility—from experimenter—For Germa[n]y
2. Panel



3. The war situation—
2 naive S[ubject]'s. One must shock the other—
1 way switch. Can be controlled by E.
4. Working in teams:
5. The Pledge. Subjects pledge to obey. | Because of certain possible hazards,
the S. must adhere carefully to the instructions of the Experimenter[e].

Figure 3. An independent transcription of Figure 2.

In this document, Milgram seems to have had in mind an Asch-like group experiment – ‘working in teams’ – in which all involved were, for some hazardous reason, to accept a ‘pledge to obey’ the experimenter’s orders. Most of those involved would be actors, but there would be two naive participants. One was presumably to be the victim and the other a shock inflictor, who was to use a one-way switch that could be controlled by the experimenter. It would appear that the infliction of increasingly intense shocks was meant to reflect a war-like situation in which the inflictors of pain would not be held responsible for their actions. Only parts of this document resemble Milgram’s recollection of these events and the official experimental paradigm. In terms of the latter, few of the actual variations involved actors working in teams. And although there was a waiver of responsibility and a shock generator that inflicted gradually escalating electrical shocks, there was no ‘pledge to obey’ or a final shock switch designated as ‘LETHAL’.

Despite this, Milgram’s research idea was starting to take shape. However, to capture the attention of academia, Milgram had to develop an experiment that produced an eye-catching result in the first official publication. Entering the academic stage with an experiment demonstrating a low rate of obedience to destructive orders would be unsurprising and would hardly equate to a ‘phenomenon of great consequence’. In a document headed ‘*Studies in Obedience*’, that like Figure 2 also probably dates back to 1960, Milgram highlighted the main coercive technique he intended to deploy to achieve his initial (albeit unofficial) goal: ‘Integrate with group process. *In order to create the strongest obedience situation use findings of group dynamics [italics added]*’ (SMP, Box 46, Folder 165, Titled: ‘Notes general, 1961–1962’ [sic]).¹⁰ But was the idea as presented in Figure 2 likely to be capable of generating the dramatic results needed to make his

¹⁰This document was also probably written before the date designated by Sterling Memorial Library as it discusses rudimentary ideas like the use of a ‘dial that reads from ... light-to-fatal’.

mark? That is, were participants likely to accept a transparently Nazi-sounding ‘pledge to obey’ orders to inflict an apparently ‘LETHAL’ shock? The changes which followed would suggest not.

Soon after arriving at Yale University, on 14 October 1960, Milgram completed his first OTA research proposal. This document established his intention to undertake a study on ‘obedience and action conformity’, in which ‘Given that a person is confronted with a particular set of commands “more or less” appropriate to a laboratory situation, we may ask which conditions increase his compliance, and which make him less likely to comply’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). Milgram then went on to describe the basic experimental procedure he intended to employ, which, in the complete absence of any pilot studies, already resembled the one he would later settle on. Specifically, the participant:

... operates a control panel, consisting of a series of switches set in a line. The switch at the left is labelled ‘1-Very Light Shock’; the next switch is labelled ‘2-Light Shock’; and so on through moderate, strong, very strong, etc. ... the switch at the extreme right is labelled ‘15-Extreme Shock: Danger.’ ... It goes without saying that ... the victim ... does not in reality suffer, but is a confederate of the experimenter ... [and] is placed behind a semi-translucent [*sic*] screen so that [the] subject ... can perceive his reactions only dimly ... Internal resistances become stronger, and at a certain point he refuses to go on with the experiment. Behavior prior to this rupture we shall consider as obedience ... The point of rupture is the act of disobedience (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’).

Attached at the end of the proposal is the following drawing of the shock ‘control panel’ (Figure 4).

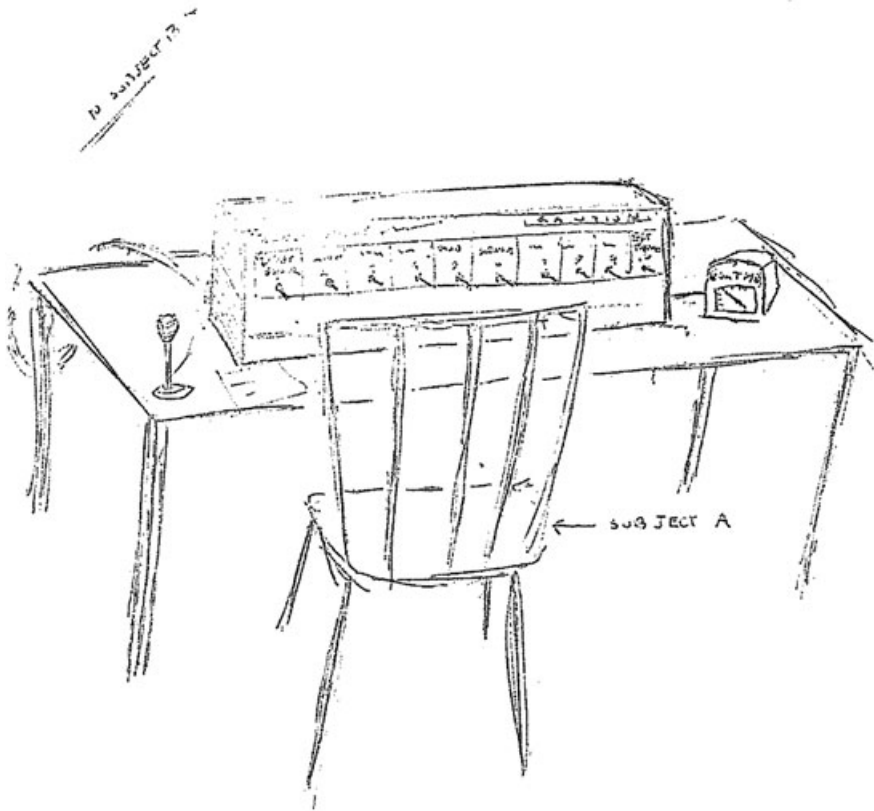
Milgram was aware that deceiving participants into thinking they were inflicting shocks on another person was internally likely to generate what he would later term strain: intense feelings of tension. He knew such feelings might encourage disobedience, thus detracting from his goal to create ‘the strongest obedience situation’. Milgram countered such feelings by introducing what he would later term strain resolving mechanisms (SRMs). SRMs were measures intended to reduce the tension normally associated with inflicting harm (Milgram, 1974, pp. 153–164). Revealed in the proposal was an example of Milgram’s introduction of a SRM in which, instead of a ‘pledge to obey’, participants were to be provided with what he intuitively sensed might be a more subtle and agreeable rationale for inflicting seemingly excruciating electrical shocks on another person. As Milgram himself said, to encourage a person to willingly inflict harm on another: ‘Obviously some acceptable rationale must be provided’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). The acceptable rationale was now to be ‘achieved by setting the experiment in a context of “social learning” ’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). In Milgram’s words: ‘Subjects believe they are performing in an experiment in human learning. In the course of the experiment, one subject finds that it is part of his role to administer “negative reinforcements” [light electrical shocks] to another subject’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). By contributing to some greater good, Milgram had transformed the infliction of harm from ‘something evil’ (shocking an innocent person) into something ‘good’ (advancing human learning) – a strain-resolving conversion process Adams and Balfour (1998, p. XX) termed ‘*moral inversion*’ [*italics original*].

Another SRM was that the last shock previously labelled ‘LETHAL’ had been substituted with the verbal designation ‘15-Extreme Shock: Danger’. This small modification

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Sketch of general form
of control panel in
studies of obedience.



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Figure 4. Sketch of a shock generator in Milgram's first OTA research proposal (SMP, Box 43, Folder 126, Titled: 'Correspondence 1960').

was perhaps motivated by Milgram's suspicion that participants were more likely to deploy a more ambiguously labelled final shock switch than one with an unequivocally destructive heading because the former was unlikely to stimulate as much strain as the latter.

Although Milgram clearly started out with an idea that attempted to capture in a controlled laboratory setting what he suspected might have led to an event like the Holocaust, by the first proposal he had come to the realization that presenting participants with a 'pledge to obey' orders to inflict an apparently 'LETHAL' shock would probably fail to create the 'strongest obedience situation'. Consequently, he considered it necessary to include a less stressful and more 'acceptable' justification for participating in an action that, at its worst point, now had a more ambiguously labelled outcome.

The selection of an electrical shock machine as the means of inflicting harm was another SRM that arguably increased the probability of completions. In Milgram's words some years later:

Thus, creating physical distance between the subject and victim, and dampening the painful cries of the victim, reduces strain. The shock generator itself constitutes an important buffer, a precise and impressive instrument that creates a sharp discontinuity between the ease required to depress one of its thirty switches and the strength of impact on the victim. The depression of a switch is precise, scientific, and impersonal. If our subjects had to strike the victim with their fists, they would be more reluctant to do so (1974, p. 157).

Milgram's previous experience as a student in social psychology, where punishment in the form of shocks was common (see Schachter, 1959), probably proved influential in his invention of the shock generator. It would seem he sensed intuitively that participants might willingly use such an 'impersonal' harm-inflicting device after the act of punishment had been morally inverted into something apparently 'good', in conjunction with the application of some socially coercive techniques like group pressure.

The first proposal also mentioned that the research programme was to be divided into two main sections. In the first, participants were to be run through the procedure alone. The second was the same as the first, except that the actual participant would be one of several members of a group. Milgram clarified what he meant by the second section:

Now transform the situation to one in which the critical subject is but one member of a group, and each member faces a control panel . . . the experiment is designed so that subject B receives his negative reinforcement only when all members of the group depress their control board switches in succession. Unknown to the critical subject, the first four members of the group are confederates [actors] of the experimenter, and willingly comply with E's commands on every occasion (SMP, Box 43, Folder 126, Titled: 'Correspondence 1960').

How optimistic was Milgram that this 'group dynamics' experiment would 'create the strongest obedience situation'?

My guess is, on the basis of considerable experience with experiments in group pressure, that certain persons will follow the group through all degrees of compliance, even to the point of administering a shock labelled 'extremely dangerous'. This guess awaits empirical confirmation (SMP, Box 43, Folder 126, Titled: 'Correspondence 1960').

Milgram was not sure at the time about the kinds of results the 'alone' experiments might produce. However, he hazarded a guess: 'Presumably, the addition of group

pressure will cause the critical subject to comply with the experimental commands to a far higher degree than in the “alone” situation’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). Because Milgram was not particularly optimistic about the latter series, he determined that their most important function was to ‘serve as necessary controls for the group experiments. It is only by using the alone situation as a standard that one can assess the strength of group pressure in the later studies’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). But, ultimately unsure how participants might react to the experimenter’s orders, Milgram cautiously added that the ‘alone’ conditions were nonetheless still ‘important in their own right’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’). Building more on Asch’s group conformity ideas than his own, Milgram’s ‘Obedience and Group Process’ experiments constituted at this time ‘the major concern of the present research’ (SMP, Box 43, Folder 126, Titled: ‘Correspondence 1960’).

The first research proposal contained all the key features of what would become known as the OTA experiments. To test the viability of his idea, all that remained was to run a series of pilot studies.

In conclusion, in this section, I have described the historical origins of Milgram’s idea to pursue an experiment on OTA by highlighting the same key factors presented by Blass (2004, pp. 1–92, 2009), Fermaglich (2006, pp. 83–123), and Miller (1986, pp. 15–19): Milgram’s long-term fascination with the Holocaust and the strong influence of Solomon Asch and others. However, I have added to these accounts by drawing out the chronological inter-connection between Milgram’s long-term fascination with the Holocaust and his Asch-inspired PhD thesis and the influence of both factors on the conception of the OTA experiments. In Figure 2, I also presented a previously unpublished document capturing the intersection, in time and space, of both factors – ‘Germany’ and Asch-like ‘working in teams’ with the intention of pursuing ‘Studies in Obedience’ – which probably dates back to Milgram’s ‘incandescent moment’. But where I have probably added most to the literature was, first, in revealing Milgram’s initial yet, in his publications, unmentioned goal to maximize the first official experiment’s completion rate and, second, in showing how he set about achieving this goal by drawing upon his previous experiences and intuition to develop a basic experimental procedure that he thought most participants would complete. However, as I will demonstrate in the next section, previous experiences and intuition were not the only factors involved in Milgram’s attempt to develop a ‘phenomenon of great consequence’.

Part 2: The early evolution of the OTA experiments

Milgram’s ability to imagine an experimental procedure in which most participants would probably follow ‘orders’ to behave ‘aggressively’ could take his idea only so far. To assess the idea’s viability, Milgram had to run a series of pilot studies. However, as Part 2 will show, the pilot studies that followed saw Milgram introduce a factor, additional to his previous experiences and intuition, that was crucial to his achieving, by the first official trial run, his goal of maximizing the completion rate. This factor was the also intuitively driven *ad hoc* trial and error exploratory method of discovery. Exploration is where:

... a scientist has no very clear idea what will happen, and aims to find out. He [*sic*] has a feeling for the ‘direction’ in which to go (increase the pressure and see what happens) but no clear expectations of what to expect (Harré & Second, 1972, p. 69).

Part 2 will not only demonstrate the centrality of exploration in maximizing the first official experiment’s completion rate but will also reinforce Milgram’s role in achieving this result.

To give his Psychology of Small Groups class some practical experience in conducting an actual experiment, Milgram provided his students with two potential research ideas: the obedience pilot or an experiment on group communication. By a narrow margin, the class opted for the obedience pilot (Blass, 2004, pp. 67–68). Armed with one of Milgram’s sketches and a small budget, his students built a rather crude 12-switch shock generator that increased in 30 V increments, ending in a maximum shock of 330 V (see Figure 5 below).

Milgram and his class then had to refine the basic experimental outline for both the ‘group’ and ‘alone’ conditions into a workable logistical procedure. With the intention of using Yale students as participants, by late November 1960 the class was prepared for the first trial runs. As Milgram said:

Before an experiment is carried out it is often hard to visualize exactly what its flavor would be. Thus, there was a certain amount of excitement and anticipation as we awaited the first subject. The study . . . was not very well controlled (as cited in Blass, 2004, p. 68).

The only ‘group’ pilot Milgram later discussed confirmed the accuracy of his earlier prediction that ‘certain persons will follow the group’. As Milgram (1964, p. 11) said: ‘Pilot studies show that subjects follow the group, or at most, fall one step behind the group level’.

As mentioned, Milgram originally intended the ‘alone’ condition to be an experimental control for the ‘group’ experiment and even before the trial run ‘conjectured that persons would not, in general, go above the level of “Strong Shock”’ [150 V]) (SMP, Box 45, Folder 160, Titled: ‘Grants 1961–1967’). However, the first test-runs left him ‘astonished’ (as cited in Blass, 2004, p. 68) – ‘*many* subjects were willing to administer the most extreme shocks available when commanded by the experimenter [*italics added*]’ (SMP, Box 45, Folder 160, Titled: ‘Grants 1961–1967’). He did not specify the exact proportion of obedient participants, only stating that ‘many’ completed the first-ever ‘alone’ pilot



Figure 5. The students’ shock generator (SMP, Box 45, Folder 160, Titled: ‘Grants 1961–1967’).

run.¹¹ Nevertheless, it was probably around this time that Milgram realized he had found his ‘phenomenon of great consequence’.

The initial surprise was soon over-shadowed by Milgram’s curiosity as to why so many were willing to complete the procedure: ‘The laboratory procedures were changed frequently in order to explore various possibilities of the experimental situation’ (SMP, Box 45, Folder 160, Titled: ‘Grants 1961–1967’). While trialing these variations some unexpected behaviours were observed:

Subjects frequently averted their eyes from the person they were shocking, often turning their heads in an awkward and conspicuous manner . . . When this fact was brought to their attention they indicated that it caused them discomfort to watch the victim in agony. We note, however, that although the subject refuses to look at the victim, he continues to administer shocks (SMP, Box 45, Folder 160, Titled: ‘Grants 1961–1967’).

The first pilot study revealed one key counter-intuitive finding: it was much easier to get many participants in the ‘alone’ series – the supposed control for the ‘group’ experiments – to inflict every shock. This was important because, if Milgram decided to use the ‘alone’ series not as an experimental control but as a stand-alone series of experiments, he would be exploring a phenomenon that would appear to have little to do with group conformity. Thus, pursuing the ‘alone’ series could result in the development of his own research legacy, rather than contributing to Asch’s. Furthermore, the ‘alone’ variation also had an obvious Asch-like control: would a lone participant complete with no orders to continue?

Although the pilots generated some surprising results, Milgram remained cautious about his students’ ‘not very well controlled’ experiments. In a document dated 6 August 1961, he revealed there was ‘something [about the first pilots] I was never convinced [*sic*] of’ (SMP, Box 46, Folder 163, Titled: ‘Obedience Notebook 1961–1970’). Milgram was not specific about his doubts, but his subsequent actions hint at his suspicion that some of the participants may have sensed the experiment to have been a ruse – due to the pilot study’s rather amateurishly disjointed procedure, bogus-looking shock generator, and some of his students’ weak acting skills (Elms, 1995, p. 24) – and completed only because they believed the learner was not really being harmed. Milgram would continue trying to obtain a high completion rate, but it was of crucial importance that, to the best of his ability, he ensured that participants believed the learner was really being shocked. Upon obtaining funding, Milgram addressed all three issues and thus strengthened significantly the internal validity of his basic experimental procedure.

However, one would expect that the more believable the experiments, the more resistant to obeying participants would become. This potential obstacle could defeat Milgram’s goal to produce a strikingly high completion rate. Milgram’s solution to this potential problem seems to have been to introduce into his basic experimental procedure even more BFs and SRMs that might increase the probability of completions. One obvious example of the latter was a procedural innovation that can be traced back to an idea Milgram proposed in Figure 2, regarding a ‘Waver [*sic*] of responsibility – from experimenter – *For Germa[n]y*’.

In a document headed ‘Report on Pilot Resarch [*sic*]’ dated 4 December 1960, Milgram pointed out that ‘One major argument of subjects is that the victim has *volunteered* for the experiment’ and, as a consequence of hearing the pained appeals, some participants resisted completing the first pilot studies because they argued it was the

¹¹ Milgram (1974, p. 170) has stated that about 60% of Yale undergraduates completed, but he was not specific as to whether this percentage related to the ‘group’ or ‘alone’ variations.

learner's prerogative to 'leave whenever he wants to' (SMP, Box 46, Folder 164, Titled: 'Notes general, 1961-1962'). This argument may have emboldened some participants to successfully resist the experimenter's demands to continue. Milgram proposed:

... the following change should be made; ... the assistant should report to the main experimenter that the subject does not want to continue ... Possible conversation:
 ... EXPERIMENTER: I Have responsibility for this situation, and I say, let's go on with the experiment. According to the rules when the subject gives a wrong answer or no answer he will receive an electric shock. Now if he refused to answer on every occasion he will just get shocked. So it is in his interest to learn the correct responses; now, let s [*sic*] go on. Proceed with the next question (SMP, Box 46, Folder 164, Titled: 'Notes general, 1961-1962').

Here, Milgram was introducing another SRM: accepting that only the experimenter was responsible for the participant's actions might reduce the latter's tensions regarding their continued participation. The idea was refined further in the official research programme to the point where the experimenter would simply respond to any form of participant resistance by curtly stating: 'I'm responsible for anything that happens to him [the learner]. Continue please' (Milgram, 1974, p. 74).

On 25 January 1961, Milgram completed a second research proposal. It began with a detailed overview of the procedural technique. The project's potential was bolstered by an overview of the first pilot studies which 'yielded unexpected results of considerable interest' (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967'). Milgram stated he was unsure as to why so many participants were totally obedient but, 'with an ultimate view towards theoretical integration', he intended to find out (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967'). This was a largely unexplored research area so, instead of the traditional hypothesis testing, he was attracted to a more exploratory methodological approach (Miller, 1986, p. 45). That is, Milgram wanted to maintain a free hand that would enable him to identify unanticipated variables and reduce them 'to quantifiable form ... as they arise in the course of experimentation'. Milgram added that he intended to test *ad hoc* then eliminate any emerging potential explanations by 'systematically vary[ing] the factors we believe alter the degree of obedience to the experimental commands' (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967').

The second proposal also presented several potentially fruitful variations on the basic experimental procedure that, after observing the first pilot studies, Milgram had come to suspect might prove capable of altering the completion rate. The variation mentioned first, presumably because at that time it was of most interest, was stimulated by the earlier observations surrounding participants who looked away from the learner while continuing to inflict the shocks. This observation suggested:

... the salience of the victim may in some degree regulate their performance. This can be tested by varying the 'immediacy' of the victim. Three conditions are suggested: 1) the victim is completely within view of the subject, without obstruction of any kind between them; 2) the victim is placed behind soundproof glass, as in the pilot studies; 3) the victim is placed in another room, and though his presence is assured, can neither be seen nor heard by the subject (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967').

Another suggested variation related to suspicions during the first pilot studies that the high completion rates may have been due to the highly competitive characteristics of Yale's Ivy League student population, which had provided the participants (Milgram, 1974, p. 170). Thus, Milgram suggested the possibility of 'two replications ... with adult populations' (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967'). Soon afterwards this was changed to using only adult participants from the wider community.

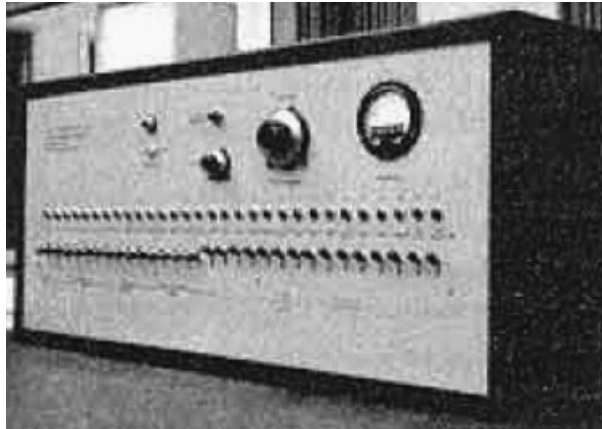


Figure 6. Milgram's shock generator (Blass, 2004, p. 79).

A particularly prominent change surrounding the issue of 'obedience and group process' was also discussed. That is, the 'group' experiments had been relegated from dominating the research programme to consisting of a couple of minor variations (SMP, Box 45, Folder 160, Titled: 'Grants 1961-1967'). The increasing focus on the 'alone' over the 'group'-type variations showed that Milgram's research idea was moving away from that of his main intellectual mentor, Solomon Asch and more towards his own interest in the individual's response to OTA.

On 3 May 1961, the National Science Foundation (NSF) informed Milgram of its acceptance of his second proposal. Milgram then started preparing for a second and much more intensive set of pilot studies. Milgram hired Alan Elms, a graduate psychology student, as his research assistant. Elms' main task was to ensure a continuous supply of participants. In a letter to Elms dated 27 June 1961, Milgram stated that: 'The goal this summer is to run from 250-300 subjects in nine or ten experimental conditions. Only if this is accomplished can the summer be considered a success' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Milgram also drew an analogy between the organization of the OTA experiments and the Holocaust:

But before long, in your role of Solicitor General, you will have to think of ways to deliver more people to the laboratory ... I will admit it bears some resemblance to Mr. Eichmann's position, but you at least should have no misconceptions of what we do with our daily quota [italics original] (Blass, 2004, p. 99).¹²

Milgram also commented that unlike his students' prototype: 'The [shock] apparatus is almost done and looks thoroughly professional' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Illustrating just how authentic his new device appeared, Milgram stated in a letter written a few weeks later to the NSF that: 'The new device passed the acid test when two electrical engineers examined the instrument and failed to realize it was a simulated device' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961').

Apart from its more professional appearance (see Figure 6 above), one obvious difference between this and his students' shock generator was that the final version had 30 rather than 12 switches. Also, instead of increasing in 30-volt increments ending

¹²On the same day Milgram also wrote a letter to Asch and again compared his experiments with the Holocaust (Blass, 2004, p. 99).

in a 330-volt shock, the newer version increased in 15-volt increments and ended in a much more significant 450-volt shock. As the following will illustrate, these modifications probably represented an additional BF aimed at increasing the completion rate.

In the second research proposal, while alluding to his initial goal, Milgram asked the following question: 'if one is trying to maximize obedience, is it better to inform a person of the worst of what he may be asked to do at the outset, or is compliance best extracted piecemeal?' (SMP, Box 45; Folder 160, Titled: 'Grants 1961 - 1967'). As the nine-switch shock generator presented in Figure 2 illustrated, the coercive power of piecemeal compliance was an inherent feature of Milgram's earliest drawings of this device. Gilbert (1981) discerned a resemblance between the gradual escalation in shock intensity of Milgram's 30-switch shock generator and a method of persuasion that, several years after the OTA study, became known as the foot-in-the-door technique (Freedman & Fraser, 1966). The foot-in-the-door technique makes use of the phenomenon that persons are more likely to agree to a significant request if it is preceded by a comparatively insignificant request. Gilbert (1981, p. 692) has explained that this BF:

... may have two important consequences: (a) it engages subjects in committing precedent-setting acts of obedience before they realize the 'momentum' which the situation is capable of creating, and the 'ugly direction' in which that momentum is driving them; and (b) it erects and reinforces the impression that quitting at any particular level of shock is unjustified (since consecutive shock levels differ only slightly and quantitatively). Both consequences of the graded shock procedure may conspire to deprive subjects of the credible rationale they need to quit at any given point before completing the experiment.

Probably with an eye towards his goal of achieving a high completion rate, Milgram repeatedly appears to have engaged in an extension of the foot-in-the-door logic. That is, compared to his early nine-switch shock generator drawing and the students' 12-switch shock generator, the final version had many more steps, and smaller steps (30 switches in 15-volt increments), that ended in the infliction of a much more powerful 450-volt shock.

During July 1961 Milgram (acting for the most part as the learner) and Elms (as the experimenter) embarked on the second series of pilot studies. This time three separate pilot-runs were organized (27 July, 2 and 4 August), using only adult participants and focusing on the issue of victim proximity (first mentioned in the second research proposal). According to a document dated 6 August 1961, the first session test-ran the 'voice feedback condition' where the participant could only hear the learner's responses to the shocks (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970'). In the second session, Milgram and Elms again test-ran the 'voice feedback' experiment and also what Milgram termed the 'no feed back' condition (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970'). In the 'no feed back' condition, the learner could not be seen or heard but the participant was led to believe that the learner was receiving shocks. Initially, there were problems - a few 'subjects penetrated the cover story' (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970'). However, Milgram made some minor trial and error exploratory refinements and by the second pilot run the 'Procedure worked extremely well' with 'No penetration' (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970') (This was unlike the first pilot which procedurally he had found unconvincing.)

Once the basic procedure was running smoothly, it became clear after the 'no feed back' condition was run again that it was going to be difficult to get a large proportion of participants to disobey:

It was thought that the verbal and voltage designations on the control panel would create sufficient pressure to curtail the subject's obedience. However, this was not the case. In the absence of protests from the learner, *virtually all subjects*, once commanded, went blithely to the end of the board, seemingly indifferent to the verbal designations ('Extreme Shock' and 'Danger: Severe Shock') [italics added] (Milgram, 1965b, p. 61).

By the final set of pilot studies, Milgram had achieved his goal of maximizing the completion rate. As he (Milgram, 1965b, p. 61) noted, however, having produced near total obedience raised a problem:

This deprived us of an adequate basis for scaling obedient tendencies. A force had to be introduced that would strengthen the subject's resistance to the experimenter's commands, and reveal individual difference in terms of a distribution of break-off points.

Milgram changed the no feed back procedure so that in the first official experiment participants experienced at least some perceptual feedback - auditory stimulation - through the learner banging on the wall on the infliction of the 300 and 315-volt shocks and thereafter falling silent. The intention of this procedural adaptation was to slightly increase the intensity of strain (instead of his usual approach of attempting to reduce tension).

The second set of pilots revealed several other issues. For the learner's taped responses to the shocks, Milgram suspected he would need an older, probably more authentic, voice than Elms' (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970'). Related to this point, Milgram thought Elms' acting as the learner during testing of the 'proximity condition', where the learner was in full view of the participant, was unconvincing and increased the probability of participants penetrating the cover story (SMP, Box 46, Folder 163, Titled: 'Obedience Notebook 1961-1970'). A more believable learner was needed. As mentioned, Milgram seemed to have felt similarly about his students' pilot study. Before the second set of pilots he hired John Williams and James McDonough to play the central roles of the experimenter and learner, respectively. The two men were invited to observe the 4 August session. Although neither was a professional actor, both proved convincing in their respective roles after two weeks of rehearsals (Blass, 2009, p. 40) (as Milgram's film on OTA demonstrated).

Acting prowess, however, was not the most important prerequisite. For example, consider the following written statement made by Milgram during McDonough's job interview: '* Definitely desired as victim The only trouble is he cannot act to [sic] well - in my estimation' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Milgram clarified what he meant by this when he said: 'Probably could not act face to face, however' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Although Milgram considered McDonough's inability to act as undesirable, there was clearly something else about this man that made him, as Milgram said, 'Excellent' even 'perfect' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Milgram continued: 'This man would be perfect as a victim' because 'he is mild and submissive; not at all academic' (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). He would later describe McDonough as 'affable' and 'unthreatening' (SMP, Box 46, Folder 174, Titled: 'Notes: Method 1962'). It would seem that Milgram intuitively desired a benign learner because he sensed that participants were more likely to continue shocking such a person (SRM).¹³ This made

¹³ Milgram's selection of an affable learner may also have been to illustrate the striking nature of his results - most participants were willing to inflict every shock on a pleasant and harmless person.

McDonough the 'perfect' learner. And his inability to act face-to-face was probably not all that significant an issue because, as Milgram noted during McDonough's interview, he 'can train' him (SMP, Box 43, Folder 127, Titled: 'Correspondence 1961'). Milgram's hiring of Williams as the experimenter also revolved around the latter's personal characteristics: as a type of BF, participants were surely more likely to obey a 'stern, intellectual looking man' who played his experimenter's 'role in a cold, austere manner' rather than, say, a more carefree person with no semblance of intellectual authority (SMP, Box 46, Folder 174, Titled: 'Notes: Method 1962').

On 7 August 1961, Milgram was finally ready to embark on the official research programme. The first official experiment Milgram undertook was the remote condition where the learner could not be heard (except for the banging on the wall after the 300 and 315-volt switch) or seen and need not be touched. This experiment resulted in a 65% completion rate. Milgram was probably expecting a slightly higher rate of completion than this, especially considering that he introduced only subtle changes (for example, infrequent wall-banging) to the no feedback pilot where virtually all completed the experiment. Nonetheless, with most participants still inflicting all of the shocks, the 65% result ensured Milgram's achievement during the first official experiment of his goal to maximize the completion rate. This experiment became the centrepiece of Milgram's first OTA publication in 1963, titled *Behavioral Study of Obedience*. Although a footnote indicated more experiments were forthcoming, the remote condition and its counter-intuitive 65% completion rate became Milgram's 'best-known result' (Miller, 1986, p. 9). It had its intended effect. With Milgram having successfully drawn attention to the wider project, he could then gradually release further and more detailed publications on the remainder of the research programme.

In conclusion of Part 2, I have shown that Milgram's reliance on, and repeated application of, the *ad hoc* trial and error exploratory method of discovery throughout the pilot studies was of central importance in his development of the remote condition's high completion rate. This method of discovery saw Milgram introduce new, and hone earlier, rudimentary manipulative and tension-resolving techniques. And by the end of this adjustment and re-adjustment phase, Milgram was able to ensure there was both 'No penetration' and that 'virtually all subjects' inflicted every shock.

Conclusion

In this article, I have traced the origins and early evolution of Milgram's OTA experiments. I have shown how Milgram's previous experiences - particularly his fascination with the Holocaust and his Asch-inspired PhD thesis - stimulated a goal to 'create the strongest obedience situation' so that most participants would follow 'orders' to act 'aggressively towards another person'. Milgram also relied upon his acute intuition to mould his research goal into a rudimentary experimental procedure, one he could imagine most participants would probably complete. The next influential factor in the development of the OTA experiments was a side-effect of the numerous pilot studies: the *ad hoc* trial and error exploratory method of discovery. Exploration resulted in the adjustment and re-adjustment of the basic experimental procedure until Milgram was confident both that the first official experiment would achieve his goal of maximizing the completion rate and that participants were likely to believe the learner was really being shocked (and thus internally valid). Previous experiences, intuition, and the exploratory method of discovery were of central importance to Milgram achieving his goal of developing the strongest obedience situation because all were fruitful in the provision of a wide variety

of BFs and SRMs that, probably cumulatively, invested the basic experimental procedure with such power. Some of the more powerful BFs and SRMs gradually worked into the basic experimental procedure included supplying participants with an acceptable rationale for inflicting the shocks (SRM), a pushy experimenter implying an acceptance of responsibility (BF/SRM), the shock generator's piecemeal escalation of shock intensity (BF), the shock generator's ability to inflict harm remotely (SRM), the ambiguously labelled last shock switch - 'XXX' (SRM), the experimenter explicitly accepting total responsibility for the participants' actions (SRM), and a seemingly harmless learner (SRM), to name a few.

In my overview of the origins and early development of his OTA experiments, I have identified the point at which Milgram's influential 'incandescent moment' may have diverted the attention of social psychologists away from the *group* forces that Asch had focused on, towards *individual* behaviour. The discipline has only recently begun to renew its interest in the former (see Reicher, Haslam, & Rath, 2008).

The overview also provides an insight into how, by the first official remote condition experiment, Milgram arrived at his most (in)famous 65% completion rate. Importantly, knowing step-by-step *how* Milgram developed this result (understanding the process of weaving) may better arm theorists interested in untangling the still enigmatic question of *why* so many participants inflicted every shock (come to grips with the problem of social causation).

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