

## **Randomization and Social Affairs: The 1970 Draft Lottery**

Randomization is not easily achieved by the mixing of capsules in a bowl.

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### **The 1970 Draft Lottery**

On 26 November 1969, the President of the United States, Richard M. Nixon, signed Executive Order No. 11497 effecting changes to Part 1631.5 of the Selective Service Regulations and prescribing a random selection sequence for induction. The amendment reads as follows:

The Director of Selective Service shall establish a random selection sequence for induction. Such random selection sequence shall be determined as the President may direct, and shall be applied nationwide. The first sequence shall determine the order of selection of registrants (other than delinquents or volunteers) who prior to January 1, 1970, shall have attained their nineteenth year of age but not their twenty-sixth. New random selection sequences shall be established, in a similar manner, for registrants who attain their nineteenth year of age on or after January 1, 1970. The random sequence number determined for any registrant shall apply to him so long as he remains subject to random selection. A random sequence number established for a registrant shall be equivalent, for purposes of selection, to the same random sequence number established for other registrants in other drawings.

This executive order was the culmination of a great number of lengthy studies regarding the military draft and its reform. A "draft lottery" system was the focus of a "sense of Congress" resolution introduced by Senators Edward M. Kennedy and Joseph P. Clark on 23 February 1967, and a recommendation for a draft lottery was contained in the 4 March 1967 report by President Lyndon B. Johnson's National Advisory Commission on Selective Service. Following this report, in a special message to Congress on 6 March 1967, President Johnson stated (11):

The paramount problem remains to determine who shall be selected for induction out of the many who are available. . . . Assuming that all men available are equally qualified and eligible, how can that selection be made most fairly? have concluded that the only method which approaches complete fairness is establish a Fair And Impartial Random (FAIR) system of selection which will determine the order of call for all equal eligible men. . . . The governing concept I propose for selection is one of equal and uniform treatment for all men in like circumstances.

After this message, however, Congress prohibited President Johnson from instituting a draft lottery system without the specific approval of Congress. The opponents of the draft lottery proposal had not objected to the "randomness" of the selection, but rather to problems that would be created by cutbacks in enlistment and officer procurement.

In 1969, President Nixon succeeded in persuading Congress to repeal prohibition against a draft lottery thus laid the groundwork for the 26 November executive order.

### **Earlier Draft Lotteries**

During both World War I and War II it became necessary to establish an order in which men should be drafted into the U.S. military service.

The preparations for the 1917 lottery were made at the last minute because of confusion about the manner in which numbers were to be drawn. By the public notification of the assignment of serial numbers several days advance of the drawing, officials attempted to allay suspicions that the assignment of numbers to certain registration cards took place after the drawing and gave certain individuals favorable order numbers. The actual lottery, which took place on 2 July 1917, consisted of the drawing of 10,500 black capsules in a glass fishbowl. It was impossible for anyone to determine the number the capsule by examining its exterior. Although it is not clear whether the capsules were well mixed at the start of the drawings, once the drawings were under way the capsules were stirred at regular intervals.

Prior to drawing the first capsule, Secretary Baker of the War Department made the following statement (12):

This is an occasion of great dignity and some solemnity. It represents the first application of a principle believed by many of us to be thoroughly democratic, equal and fair in selecting soldiers to defend the national honor abroad and at home.

I take this occasion to say that every step has been most honestly studied with a view not only to preserving throughout the utmost fairness in the selection, but also to preserve all those appearances of fairness which are necessary to satisfy the country that this great selection has been made in accordance with every principle of justice.

As far as I have been able to ascertain no formal statistical analysis was carried out to determine whether the selection procedure was indeed fair.

Substantially the same method of drawing numbers was followed for two subsequent lotteries on 27 June 1918 and 30 September 1918 (13).

For the 1940 draft lottery, each Selective Service district in the country assigned a different number from 1 to 9000 to every eligible man. The number 9000 was chosen because it was 1164 integers higher than 7836, the highest number of men registered with any single local board (14). These "extra numbers" were included in the lottery to take care of later registration; thus, of the 9000 numbers in the ultimate fishbowl, the 1164 largest were in effect blanks. The average Selective Service district enrollment, however, was 2672, and as a result there were additional high numbers that represented relatively few registrants.

Before the drawing took place, each of the 6500 local Selective Service boards in the country sorted the cards of individuals registered with the board and removed the cards of those living in other localities. Then the cards were shuffled and numbered, and a list, giving the number assigned to each eligible man, was prepared. One copy of the list was posted in a public place before the lottery. This procedure actually led to a double attempt at randomization, because of the mixing of capsules in the next stage.

The 9000 numbers were placed in opaque capsules by women, in shifts, working under guard, and the capsules were then placed in small paper boxes, each box containing approximately 100 capsules (15) roughly in consecutive order. The boxes were emptied into a large glass bowl in the presence of witnesses at Selective Service headquarters. The bowl was the same one that had been used in 1917, although it had to be modified somewhat. Shortly before the drawings were to take place, it was discovered that the bowl was too small to hold the 9000 capsules; although there were fewer capsules than in 1917, they were sufficiently larger to overflow the bowl. As a result, a special plastic "collar" was devised to increase the height of the bowl.

After the capsules were in the bowl, they were stirred with a small wooden paddle made from a fragment of wooden rafter from Independence Hall in Philadelphia. The *Chicago Tribune* reported (16) the claim of witnesses who said that the paddle was too small to reach deep enough into the bowl. Some of the capsules broke open during the mixing and it was suggested that this further impeded the mixing process. (The *Chicago Tribune* carried a picture of an army sergeant reaching inside the bowl for a numbered slip that had fallen out of its capsule.)

Finally, the capsules were drawn one at a time, establishing the order for induction within each Selective Service district. Pictures show the first capsules being drawn from the top of the bowl. When the drawings were concluded only 8994 numbers had been drawn, and officials immediately organized a "little lottery" for the missing six numbers, which were then listed from 8995 to 9000. By this time, several questions had been raised regarding the adequacy of the mixing of the capsules.

Walter Bartky and Samuel Stouffer, then on the faculty of the University of Chicago, reported on their analysis of the draft lottery drawings in a statement published in the *Chicago Tribune*. They noted that the numbers drawn clustered "in nests in such a way that the serial numbers in the groups from 1 to 2,400 tended to escape drawing the first 2,000 or so draws, with the curious exception of too frequent drawing of serial numbers in the group 101 to 200" (77). As an example, they pointed out that no serial number between 300 and 600 was drawn in the first 2400 draws. By pure chance, this would occur less than once in  $15 \times 10^{40}$  times. The same improbability applied to the absence of numbers in the ranges 901 to 1200, 1501 to 1800, and 2101 to 2400. In addition, Bartky and Stouffer did a detailed analysis of the clustering of numbers in the drawing. Their criticisms were duly noted by the Director of Selective Service in his report to the President (18).

In spite of all the preliminary stirrings of the capsules, the numbers that were picked seemed to be concentrated in certain hundreds. (This was due apparently to the fact that the numbers had been poured in lots of a hundred each and the lateral stirring had not effected a complete mixing or redistribution of the numbers).

In a second lottery held on 17 July 1941, 800 capsules were used, and these were "tossed about" and "rolled back and forth" on a canvas, in an effort to overcome the criticisms of the first lottery (19). Fewer men were involved in the second drawing and these latter registrants

were integrated into the previous lottery list of the local boards by placing a new registrant, in the order chosen, after each group of ten previous registrants. There was also a third World War II lottery on 17 March 1942.

One lesson to be learned from the 1940 draft lottery and the surrounding publicity is that thorough physical mixing is extremely difficult to achieve. Thus, great care must be taken in order that capsules drawn from a bowl do not present a picture of marked and often dramatic departures from randomness. Unfortunately, the officials of the national Selective Service System headquarters who were in charge of the 1970 draft lottery did not learn from the errors of their predecessors.

### **Execution of the 1970 Draft Lottery**

A presidential proclamation, issued simultaneously with the executive order of 26 November 1969, stipulated that the 1970 lottery would be based on birthdays, and Selective Service officials devised the actual method of drawing the dates. Although an official detailed description of the actual procedures used is not available, Captain William Pascoe, chief of public information for the Selective Service System and the man in charge of the lottery, has informed me that the following account which appeared in the *New York Times* is basically correct (20).

Over the weekend before the December 1st drawing, Captain Pascoe and Col. Charles R. Fox, under the watch of John H. Adams, an editor of *U.S. News and World Report*, set up the lottery.

They started out with 366 cylindrical capsules, one and a half inches long and one inch in diameter. The caps at the ends were round.

The men counted out 31 capsules and inserted in them slips of paper with the January dates. The January capsules were then placed in a large, square wooden box and pushed to one side with a cardboard divider, leaving part of the box empty.

The 29 February capsules were then poured into the empty portion of the box, counted again, and then scraped with the divider into the January capsules. Thus, according to Captain Pascoe, the January and February capsules were thoroughly mixed.

The same process was followed with each subsequent month, counting the capsules into the empty side of the box and then pushing them with the divider into the capsules of the previous months.

Thus, the January capsules were mixed with the other capsules 11 times, the February capsules 10 times and so on with the November capsules intermingled with others only twice and the December ones only once.

The box was then shut, and Colonel Fox shook it several times. He then carried it up three flights of stairs, a process that Captain Pascoe says further mixed the capsules.

The box was carried down the three flights shortly before the drawing began. In public view, the capsules were poured from the black box into the two-foot deep bowl.

Captain Pascoe said he did not know which end of the box he poured from. If he poured from the end where the capsules with the early months had been repeatedly shoved, these capsules might have fallen to the bottom of the bowl. Conversely, if he poured from the other end, the later months could have fallen to the bottom. This assumes that the shoving and shaking procedure did not adequately mix the capsules.

Once in the bowl, the capsules were not stirred. . . . The persons who drew the capsules last month generally pitied ones from the top, although once in a while they would reach their hand to the middle or the bottom of the bowl.

Once again the question of inadequate mixing of capsules must be raised. From the above description one might expect that dates late in the year would tend to be drawn early, and dates early in the year would tend to come up late in the drawing (or vice versa, if in fact the box had been turned over).