THE PROBLEM OF MACHINE-MADE MATZOT AS REFLECTED
IN THE RESPONSA OF THE 19th CENTURY

BY

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INTRODUCTION

The history and evolution of matzot\(^{(1)}\) can best be traced, beginning with the primary sources found in scripture. The Bible, in Exodus XII, 15, instructs us, "Seven days shall ye eat unleavened bread;"\(^{(2)}\) and goes on with the prohibition of possessing and eating chametz.\(^{(3)}\) Two sentences later, we have an admonition to "watch the unleavened bread," lest it become chametz.\(^{(4)}\) The following sentence repeats the dictum for eating unleavened bread, and cites the specific time, "In the first month, on the fourteenth day of the month at even, ye shall eat unleavened bread, until the one and twentieth day of the month at even."\(^{(5)}\) The very next two sentences seem to once again repeat what has already been written concerning the prohibition of having chametz in one's house, or the eating of chametz, the latter sentence giving the positive and negative aspects, "ye shall eat nothing that leaveneth; in all your habitations shall ye eat unleavened bread."\(^{(6)}\)

Further in this chapter, in a sequence following the tenth plague, the Bible relates how the Egyptians urged their leaders to send the Israelites out of Egypt. We are told how, in the rush to leave, the Israelites, "took their dough before it was leavened, their kneading-troughs bound up in their outergarments upon their shoulders."\(^{(7)}\) The refugees then began the first portion of their journey, which took
them from Rameses to Succoth. During this portion of their trek, they stopped to make bread from their dough, since with the suddenness of their departure, they had no time to prepare provisions. As the Bible phrases it, "they baked unleavened cakes of the dough which they brought forth out of Egypt, for it was not leavened; because they were driven out of Egypt and could not tarry, neither had they made for themselves any provisions."(8)

Once again in Exodus XXXIV, just after the second Ten Commandments had been handed down we read, "The festival of unleavened bread shalt thou keep. Seven days thou shalt eat unleavened bread, as I commanded thee, in the appointed time of the month Abib: for in the month Abib thou wentest out from Egypt."(9)

The last references to matzot appear in Deuteronomy, with a brief repetition of the passage, "seven days shalt thou eat unleavened bread by it, even the bread of poverty."(10) The last sentence concerning matzot reads, "Six days thou shalt eat unleavened bread:" , (11) seemingly contradicting all that has been written in the sentence before. Rashi calls attention to the contradiction: "But in another passage it states (Ex. XII.15): 'seven days (ye shall eat unleavened bread)'."(12) One of the explanations given holds the key to the observance of eating matzot. The question that Rashi raises about this sentence is concerned with the ways of observing the seventh day, he concludes that the eating of matzot is optional "with the exception, however, of the first
night of Passover, for which Scripture has fixed it (the eating of unleavened bread) as an obligation". Rashi also cites the reference, "at evening ye shall eat unleavened bread." (13)

This then completes the Biblical descriptions of the positive and negative precepts connected with the observances of the consumption of matzot. The only earlier references to matzot in the Bible, is found first when Abraham offered food to his three guests. One of the foods he asked to have prepared were "ugot". (14) The conclusion that this was matza, is drawn from the use of the same term in Exodus, where the Israelites baked "ugot matzot". A direct reference though, is found when Lot received visitors from Sodom, "and he made them a feast, and did bake unleavened bread, and they did eat." (15) Rashi states that this had taken place on Passover.

Through the ages many laws governing the preparation, content and baking of matzot have evolved. As cited before, the basic precept attached to this mitzvah is the requirement to eat matza on the eve of the fifteenth day of Nisan. This matza is what is known as "matzot mitzva," literally; that through which we satisfy the performance of the mitzva (commandment).

There are two categories of matzoh, pshuta (ordinary) and shmurah (guarded). While physically they are alike and are produced in similar manner, the preparation and legal status differ. Matzah shmurah is made from wheat that has been specially guarded, kneaded and baked, in order to fulfill by consuming it the obligation of eating matzah. This
special care is based upon the statement in the Bible u'shmartem et ha-matzot, ("and you shall guard the matzot," Exodus: 12:17). The rabbis inferred from this that wheat intended for the baking of matzoh which will be eaten to fulfill this Biblical commandment requires special observation while still in its natural state. This observation is to insure that no water fall upon the raw product. According to the opinion of some great authorities, observation may begin from the time of grinding (techina). Others maintain that it is to begin with the act of reaping (ketsirah). This is the accepted procedure. Because of this ruling, it is best to reap the grain before it is fully ripe and whitened, since after ripening, though still attached to the soil, because its nourishment from the latter has ended, it is considered detached. (Thus, should any water fall upon it, its use for matzah shmurah would be forbidden. (Matzah made from grain that has not been watched since reaping nonetheless, baked in accordance with the law, is called pshutah.)

Great care is also taken in the baking of matzah shmurah. The baking of matzot by hand resulted in certain specific requirements in baking procedure. The kneading of the dough had to be virtually continuous, for should it be stopped, the leavening process might begin. In addition, the dough had to be kept away from sudden contact with heat until the baking process began, and great care had to be taken that no piece of dough should get caught in cracks of the table lest
any part of the batter leaven and void the rest of the dough. The workman was expected to watch out for any stray, unmilled kernals (chitah shlemah) in the flour lest they leaven and void the batter. It was, therefore, necessary that the bakers be mature adults and not legally irresponsible, i.e. deaf, mute, insane, minors. (18a)

As previously stated, matzah shmura had to be eaten to fulfill the biblical commandment to eat matzah. This applies only to the matzah eaten at the Seder over which the blessing is recited. During the rest of the Passover one is not obligated to eat matzah, but rather refrain from eating chametz. The more pious recommend that matzah shmura be eaten during the entire festival. However, this is rarely practiced. Matzah pshutah would suffice. (18c)

Because of the lack of leavening and other ingredients, matza was also called in scripture, (Deut XVI. 3) "lechem oni" (the bread of the poor).

Eating matza for the balance of the holiday is a voluntary act and the matza eaten during these six days need not be "shmura" but may be plain or "matza peshuta".

We also have various rulings on the eating of matza shmura during Passover. There are those who require the eating of a k'zayit (size of an olive) piece of matza shmura on the first night of Passover if one resides in Israel. Outside of the Holy Land this procedure is required on both nights of Passover. There is yet a third view that requires the
We likewise have a custom observed by some whereby they do not eat a mixture of matza products with a liquid such as water, egg or juice. This food is called Gebroks (mixture).

The grain from which matza can be made is limited to five types. As the Mishna relates, "These are the commodities with which a man discharges his obligation on Passover: with wheat, with barley, with spelt, with rye and with oats." (21)

Aside from the limitations of types of grain, the contents of the matza can be only flour and water. This too is stated in the Talmud, "Rabbi Akiba said: (The repetition of) 'unleavened bread', 'unleavened bread', is an extension. If so, what is taught by 'bread of affliction' (oni)? It excludes dough which was kneaded with wine, oil or honey." (22)

There is even a restriction regarding the water which is mixed with the flour.

There is a discussion in which Rabbi Nathan is quoted concerning the route followed by the sun during the summer being closer to earth thereby making the surface of the earth hot and the water below ground cold. In the winter, with the sun further from the earth, the earth is cold and the water below is hot. (23) Because warm water might hasten fermentation, it was decided that well water would be warm during the season of Passover, therefore water should be allowed to stand overnight before being mixed for matzot. This is what is known as "mayim shelanu", or water which has been kept overnight.
There is a limit on the amount of dough kneaded at one time, because fermentation could begin if too much is taken by the time that it takes to properly knead. One should not knead an amount of dough larger than 43-1/5 medium sized hens' eggs. Concerning the time allowed for preparation, the maximum is the time required for a journey of a mile (2,000 cubits) which is about 27 minutes. This time could be extended by continuous kneading and frequent washing of the kneaders' hands in cold water. (24)

From the description in the Talmud a sort of assembly-line was set up, where the first woman, "having kneaded the dough she forms it in shape, while her companion shapes the dough in her place, while the third woman kneads. The first having baked, she kneads again, and her companion bakes in her place, while the third shapes her dough. And thus the round revolves. As long as they are engaged in working on the dough, it does not come to fermentation." (25)

The shape of the matza to judge by the term "uga", was round, and according to the codes its size may not exceed the size of a closed fist, which was the thickness of the showbread and is about four inches thick. (26) Later, the custom was to make matza one finger thick. In our times, the matza is very much thinner so that five or six would be an inch thick. (27)

After the dough for the matza had been prepared for baking, perforations were made in it to keep it from rising during the baking process. According to Talmudic literature
artistic perforations were made and regulations against this practice were formulated because of the fear that fermentation might begin while the artist would be taking his time with a figure. The Talmud speaks of matzot with the representation of a seated figure being used in the house of Rabbi Gamaliel. However, we are assured that the figures were put there with a die and were not drawn by hand. (28) Another statement similar to this is made by Boethus B. Zonin, who asked the sages, "Why was it said that Syrian cakes shaped in figures must not be made on Passover? Said they to him, Because a woman would tarry over it and cause it to turn to leaven. But, he objected, it is possible to make it in a mould, which would form it without delay. Then it shall be said, replied they, that all Syrian cakes shaped in figures are forbidden, but the Syrian cakes of Boethus are permitted!" (29)

In about 1856, (30) a matzo machine was introduced in Austria, employing according to I. D. Eisenstein, two rollers to flatten the dough. After this the thin product would fall into a metal tray. Then the matza was placed in an oven and baked. This was considered to be an improvement over the old method, where the dough was placed in the oven on a long handled paddle-like implement to which some dough could cling, thereby raising the danger of fermentation. With the dough dropping into a metal tray, the paddle implement was eliminated. In the beginning, the matzot were made round and the pieces which had made up the corners when the matzo rolled out, was added to the dough which had not yet been rolled.
Because of the possibility of fermentation, of this excess dough, the shape of the matza was changed to a square, thus eliminating the problem. The same basic question concerning the dough which was trimmed off was encountered and the same change in shape took place. (51)

According to Grinstein, in the mid 'forties, the baking of matzot was a thriving business in the Jewish community in New York City, with competitors vying for the trade of the large congregations.

Apparently, when there were few bakers and they catered to congregations, they were closely supervised to make sure that all of the religious precepts were adhered to. As the number of bakers increased the number who operated without or with weak supervision increased. Eventually in 1855 a combine was formed by all of the bakers in New York in an attempt to raise and fix the price of matzot. The community in turn patronized the one baker, Goldsmith Brothers, who did not join this trust and who also agreed to supervision. Religious problems as to the acceptability of the machine produced product came to the fore and as Grinstein relates, "machine-made matzoth were introduced in New York in the early 1850s. Before the product of these machines could be accepted, an opinion was sought from religious authorities. Chief Rabbi Nathan Adler of London permitted the use of the machine-made cakes provided that there was not more than a nine-minute wait before the dough was baked. Rabbi H. S. Hirschfield of Gleiwitz, Prussia, also approved of the use of the machine
product. Judah Middleman, however, himself a matzah-baker, and others at the Beth Hamidrash in New York advocated the use of hand-made matzoth only."

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**KLUGER**

**HISTORIC BACKGROUND OF DEBATE**

**THE DISPUTE IS LAUNCHED**

The appearance of machine-made matzot plunged the halachic world into a long and acrimonious dispute. The machine had already been used in various cities in Germany when it was brought to the Galician city of Cracow, very likely some time in the late 1850's. Rabbi Solomon Kluger of Brody wrote to Rabbis Hayyim Nathan Dembitzer and one, Leibush Horowitz of Cracow, Galicia, declaring that the matzot baked in such a machine were contrary to the law and could not be used for Passover, particularly so for mandatory matzot, matzot mitzva. Rabbi Kluger published this letter together with other rabbinic opinions in agreement with him as a warning proclamation, *Modaah l'bet Yisrael* ("Announcement to the House of Israel"), in Breslau in 1859.

In the same year the famous Rabbi Joseph Saul Nathanson of Lemberg gathered the contrary opinions that the machine-matzot were kosher. He published these in the same year in Lemberg in the booklet - *Bittul Modaah* (Annulment of the Announcement).
RABBI HALBERSTAM'S OBJECTIONS

Thus was the dispute launched. Evidently, during the first stage the arguments on both sides were circulated in letter form also among other rabbis. Rabbi Hayyim Halberstam of Sanz, expressed his opposition to machine matzot in a letter dated 1858 that he had never seen the machine but his motive for prohibiting it is an interesting one. Basing his arguments on Rabbi Kluger's Modaah l'bet Yisrael and Rabbi Nathanson's Bittul Modaah, he states in the same responsum:

With regard to the question of whether it is permitted to make matzot by machine, behold, I have seen the responsa of the sages of our time who agree to prohibit (the machine-made matzot) and they are quite right, even though some of their arguments can be refuted. It is sufficient ground for the prohibition to rely upon the statement of Rabbi Zev Mordecai Ettinger who saw with his own eyes that it was impossible to scrape the machine after each use (baking). In my opinion, there are many reasons for the prohibition, but I (will) keep these reasons to myself, for this I have received in tradition from my father-in-law and teacher that in matters such as these, one should not reveal the reasons, but simply decide the law outright and let him who will obey, obey.

PARALLEL WITH MACHINE-MADE TZITZIT

Rabbi Halberstam was also opposed to tzitzit made by machine. His objections in this case are almost identical with those raised against the machine-made matzot: first
that the work is done mechanically and not by the hands of man; second, that the wool had to be watched against the danger of shaatnes. Rabbi Halberstam also foresaw the possibility of the involvement of non-Jews in the machine-made production. The law requires that such sacred objects be produced by Jews. He also argued that if such tzitzit are permitted in Sanz, a pious community, they will be accepted in other cities and countries.

Consequently, the machines will be made progressively larger and more mechanized, just as has been the case with the manufacture of matches. To cite, "I know the nature of machines. They are changed every day and who knows what they will be like tomorrow." In some countries, non-Jewish workmen will be involved in the production. On the same basis he decided to forbid machine-made matzot. He ends with the statement, "I am confident that I will see the overthrow of the machine." Very shortly thereafter, the entire matza factory in Sanz, including the machine, burned down.

RULING ON STEAM MILL

Rabbi Halberstam was also asked whether it was permitted to mill flour for matzot in a steam mill rather than the customary water-mill. His son, who was Rabbi Solomon Halberstam in Bielitz, had the flour milled for that Prussian
city in a steam mill. He reported that the process failed to moisten or warm the grain and was therefore unobjectionable. (44) Though permitting the use of a steam mill, his father, Rob Hayyim, nevertheless, preferred that it not be used because it involved an innovation. To cite: "I have never seen a steam mill in my life, but I say it is better not to use it. Let us not do anything that we have not received by tradition from our ancestors. I would never permit the use of this machine." (45)

RABBI KLUGER'S ATTACK

Most involved in the dispute were Rabbis Shlomo Kluger and Joseph Nathanson of Lemberg, both outstanding authorities. Their views shall be presented beginning with that of Rabbi Kluger, as stated in Responsa 32 in Volume IV of his celebrated collection, Haelef L'cha Shlomo, published in Lwow in 1910. (46)

Rabbi Kluger gave several reasons for his prohibitions. His first reason was the "Heresh, shoteh, v'katan" ruling (deaf-mute, insane, and child). Rabbi Kluger compared the participation of a minor (under thirteen years of age) in matza shmura baking to the use of an inanimate object which is forbidden. The role of a minor in matzot shmurot baking, Rabbi Kluger stated, was limited to auxiliary functions, e.g., running errands of bring water. It could not
be extended to the actual participation in the preparation of the dough or the baking. These could be done only by adults.\(^{(48)}\)

The law requires that an inanimate object cannot perform a useful purpose in the baking of matza shmura. An observant Jew must supervise the entire process from the kneading to the completion of the baking.\(^{(49)}\) It is, of course, understandable that everyone must eat matzot mitzva on the first night of Passover. The requirement is that the consumption of a piece of matza must be the size of an olive (k'zait). Rabbi Unger argued that pronouncing the blessing, "al achilat matza," at the seder table upon machine-made matzot should be considered as taking G-d's name in vain. Clearly, the Torah-ordained matza shmura obligation would not be fulfilled under such conditions.

Another issue is the presence of a "hita shlema" (a whole kernel of wheat). According to the halachic rules on matzah-baking, a whole kernel of wheat found in the dough undergoing preparation for baking, might render the entire piece of dough chametz. Such detection, he argues, is possible only in the case of hand-made matzot. For the person who kneads the dough can detect a whole kernel. There is no such possibility for detection in the machine process.

A third important argument is the economic one. Hundreds of men and women are dependent on matzah baking for a good part of their income. With the coming of the machine,
many people were thrown out of work. This economic problem weighed heavily upon the shoulders of numerous Rabbinic authorities and is reflected in Rabbi Kluger's arguments. The other arguments will be presented within the context of the development of the debate.

THE TWO CAMPS

Soon the rabbis were split into two camps, both staunchly adhering to their point of view. They were grouped as follows. On Rabbi Kluger's side were Rabbis Nathan Lefshitz of Santov, Meir Auerbach of Kalish, Mordecai Zev Ettinger, Hayyim Halberstam of Sandz, Moses Jerusalemski and Abraham Sarchov.

Of the very same degree of conviction and determination were the following great authorities who sided with Rabbi Nathanson: Rabbis Israel Lifshitz of Danzig, Abraham Benjamin Sofer of Pressburg (Bratislava), Jacob Ettinger of Altona, the one Wolf Hamburg of Furth, Isaac Halevi Bamberger of Wurtzburg, Sholom Mordecai Schwadron and Samuel Salant.

The dispute became increasingly acrimonious. In his Modaah l'bet Yisrael, referring to his great contemporary, Rabbi Nathanson, Rabbi Kluger adds, "Look and see the words of him who permits this (the use of the machine), how his words are vanity of vanities; how he even prints his words
in order to mislead the people. Woe to us that such as this has happened in our day, that there should be such leaders. For we know his habit; he is always lenient and is always looking for a way of being permissive knowing that in this generation only he who is lenient is revered as a great teacher."(59)

This is clearly a reflection of the bitterness between the "machmirim" and the "makilim" (the strict and the lenient interpreters of the law). This is also seen in the statement by Rabbi Zev Wolf who states, "Our people is divided into two camps and the fire of controversy blazes and our Torah is divided into two Conflicting Torahs."(60)

**Rabbi Nathanson's Rebuttal**

The booklet *Bittul Modaah* (Annulment of the Announcement) of 1859, is a rebuttal of Rabbi Kluger's arguments by Rabbi Joseph Saul Nathanson and others. The general answer is that the machine is not to be considered as a lesser intelligence than an "insane person, etc." because the machine works so rapidly that the danger of leavening is much reduced. As for the depriving the poor of work, the purpose for the baking of matzot is ritualistic rather than social. It is not to provide for the poor, but to produce for Passover consumption. Rabbi Nathanson also argued that having observed hand matzot baking operation, he and others were convinced
that it is impossible to adequately guarantee its kashrut because of the untrained helpers dashing about the place.

RABBI ETTINGER'S ATTACK

The second attack on the machine-made matzot came from Rabbi Mordecai Zev Ettinger, a brother-in-law of Rabbi Joseph Saul Nathanson, their defender. One of the earliest joint works of the two brothers-in-law was a collection of responsa, Meforash Ha-yam. They wrote a number of books together, but in this controversy they were on the opposite sides. Ettinger stated that he saw the machine in actual use. He forbade it because when the round matzot were being stamped, the extra dough between one circular matzah and the next was used over again, posing the danger of leavening. Of course, such was not the case with square matzot. As we have mentioned, among the other opponents of machine matzot were Rabbis Hayyim Halberstam of Sancz, Isaac Nathan Lifshitz of Santov, Meir Auerbach of Kaliscz, Rabbi Kluger himself subsequently reiterated his opposition in two more opinions. (61)

RABBI JERUSALEMSKI

A rather violent letter was written by Moses Jerusalemski. (62) He held that it was the duty of all the leaders of the generation to stand in the breach of the wall.
"I do not deny that I have not seen the machine myself; but from what is explained in the books of the great, I know that it must be prohibited." He continues later in the same letter that, "machine matzot are a part of the innovations which are destroying Judaism. For the innovators come to destroy Israel at this time."(63)

REASSERTIONS OF NEGATIVE OPINIONS

Soon the objections mounted. Rabbis Kluger, Ettinger and Halberstam no longer cared to go into Kluger's original reasons for the prohibitions. They merely reasserted their strong opposition in brief. For example, Abraham Borenstein, Sokolow, author of Abnei Nezer, published in 1902, stated,(64) "Your letter about the machine matzot has reached me and although I have never seen the machine, still the words of the Gaon of Kutno are valid, namely that the great ones who preceded us have prohibited it and stormed against those who permitted it."

FAVORABLE REACTIONS TO RABBI NATHANSON

In spite of all the stormy opposition, the use of the machine spread swiftly throughout Western Europe,(65) first in Austria and Germany and eventually in other countries, especially in the United States. Many rabbis, moved by
their understandable fear of innovation, nevertheless, continued to oppose the use of the machine. However, the machine offered numerous and great advantages. Mass-production would bring the price down and made it much easier for more people to observe the Passover. For purposes of packaging, machine matzot can be packaged simply and easily because of uniformity of the product. There was much more breakage in the packing and shipping of hand matzot. Thus, the legalistic arguments in favor of the views of Rabbi Nathanson and his followers were given support by the actual practice. Baking matzot by hand with the helpers crowding in the bakery inevitably led to carelessness and often to much more delay than in the case of machine production and the more the delay, the greater the danger of leavening. (66)

Besides the spirit of the times was on the side of Rabbi Nathanson. Nowadays, hand-baked matzot in the style of the small hamlet in western countries and in the United States are rarely heard of. Most of the Passover matzot are baked by machine. (67)

RABBIS SCHWADRON–ROSENFELD DISCUSSION

As the dispute shifted to various communities in Europe and the United States, it tended to confuse the public.

The leading Galician authority of the last generation, Rabbi Sholom Mordecai Schwadron of Brazon, Galecia, seems to
feel that it is no longer necessary to go into debate.  

The discussion was renewed in 1902, when Rabbi Zachariah Joseph Rosenfeld of St. Louis raised the question of the use of electricity in the making of matzot. (Exhibits A and B). Rabbi Rosenfeld no longer asks whether the machine should be used; he seems to take it for granted. He merely asks whether he should not continue to object as he did in the past to placing a large batch of dough in the machine at one time. If the batch is too large, the mechanical kneading may not penetrate the whole mass and there is danger of leavening in the center of the mass.

The machines were so constructed as to knead 35 pound portions of dough at a time. However, there was a lapse of 30 minutes from the pouring of the water into the flour in the mixing vat until the placing of matzot into the oven. With a 15 pound load, suggested by Rabbi Rosenfeld, the lapse was 15 minutes. The reduction of volume by a half was the cause for the baker's protest. He claimed that it cut his profits by half which he couldn't afford.

Rabbi Schwadron maintained the permissive point of view. In his detailed discussion of the intricate problems involved, Rabbi Schwadron referred to the Nathanson-Kluger debate and the many luminaries who had been vehemently opposed to the machine matzot. He emphasized in the argument that when the baking is not done by a man, it is an act comparable to that of a minor who has no understanding. He agreed with Rabbi Nathanson and others that the machine
operates as a result of the act of numerous people and that this is an act through man's initiative once removed (koach kocho) and should therefore be permissible. He cited their testimony that the utensils do not become warm during the fermentation. Because the air in the vat remains cool, he argued that the dough is acceptable for Passover use. He argued that the reason why the Rabbis permitted machine matzot is because the very action of the revolving of the rollers was initiated by a human being and is therefore to be considered an act of man. Yet, he was very cautious. He was not absolutely certain that these factors operated in all cases. It may be possible that the particles of dough may be anchored along the walls of the vat and the possibility of warmth existing in the area where the revolving takes place. Thus, he maintains, it is mandatory that all these areas should be carefully scrutinized and if everything checks out satisfactorily, the procedure may be permitted.

Only in the last paragraph of his responsa does Rabbi Schwadron feel it necessary to revert to the basic question which had created so much excitement for two generations. He says: "As for the fundamental question of using the machine, the dispute is well known; it took place in the days of Joseph Saul Nathanson, rabbi of Lemberg; when Solomon Kluger and Mordecai Zev Ettinger and others stepped forth to prohibit these matzot. Their chief argument was that making the matzot requires the exertion of a human being, whereas, by machine it is done automatically. Yet some
ON FORGETTING TO EAT AFIKOMEN

Another problem was the acceptability of machine-made matza for a matzot mitzva. Part of the commandment to eat matza (matzot mitzva) includes the eating of the Afikomen (dessert matza) at the end of the seder. If at the conclusion of the seder one forgot to eat the Afikomen, but during the meal he had eaten matza pshuta, the question arises as to whether he has fulfilled his obligation. If Birchat Hamozon (grace after meals) were recited, one is not required to eat the Afikomen.

LISTING OF HALACHIC OBJECTIONS

1) The popularity of the machine-made matzot would directly deprive the livelihood of the poor people who otherwise would bake them by hand and thus earn a living. Through automation a very large number of people would be thrown out of work. Obviously many more people were required for the baking of hand matzot whereas machine-made matzot automatically meant the loss of work by all Jews who were previously employed.
This point of view was held by Rabbi Kluger and Rabbi Jerusalemski, author of the S'•de Chemed. However, Rabbi Nathanson, on the other hand, maintained that it is perfectly permissible. If this concept were not so, argues Rabbi Nathanson, then the printing of books would be outlawed, because in this process too, the livelihood of the poor would be endangered.

2) The manufacture of machine-made matzot is equivalent to the act of a minor, whose action is categorized as one who is "Ein Bo Daas" (does not have minimal knowledge). The baking of matza requires shmira (watching or carefully observing, as the Scriptures indicates, "and ye shall watch the matzohs").

Rabbi Kluger states that a machine, even under the supervision of an adult, does not fulfill the biblical requirement. Rabbi Nathanson, however, states that there is no conflict of halacha, and the machine is permissible.

3) Rabbi Kluger argued that if a chito sh'lemo (a whole kernel of wheat), is found during the baking by the person handling the hand baked matza in a state of fermentation, the baker could quickly direct the problem to the proper authority. However, when matzahs are baked by machine, it is impossible to detect the presence of a whole kernel. (74)

According to Rabbi Nathanson, however, this problem may be completely discounted since the mashgiach ( overseer) would find any such kernel and immediately ask the opinion
of a rabbi. Furthermore, since the flour is carefully sifted it would be virtually impossible for the kernel to slip into the mixture. (75)

4) There always exists the problem of small pieces of dough that cling to the rollers which are very difficult to clean. It is impossible to scrape all of the crumbs out of the machine. This is an example of the problem which unless solved can make the entire batch of matzot unusable for Passover.

Rabbi Hayyim Halberstam, author of Divre Hayyim, as well as Rabbi Shlomo Kluger argued that it is impossible to scrape all of the crumbs out of the machine. Rabbi Nathanson did not agree with them.

5) Rabbi Shlomo Kluger states that as long as the dough is kneaded by hand it cannot ferment. It is not known whether such is the case with machine-kneaded dough. Since this cannot be ascertained, he forbade the machine-made matzot. Also since the machine makes square matzot there are crumbs that become fermented immediately after it stops working. Rabbi Nathanson did not agree with him.

6) Rabbi Kluger brings a text — "Kal hasrikin asurin usruke Beitus mutarim" "All Syrian cakes shaped in figures are forbidden but Syrian cakes of Boethus are permitted".

As cited before, in Pesahim 37a there is a discussion concerning the making of Syrian cakes in the shape of figures. The reason for its prohibition is because women would tarry during this process to perfect their work and thereby bring
on the process of fermentation. But the objection was raised—is it possible to make it in a mold which would form it without delay? The answer was an obvious NO. The machine-made matzot were considered to have been made in a mold and therefore unacceptable.

From this one may deduce according to Rabbi Kluger's views, that matzot made by an adult are permitted but those made by machine are prohibited.

7) We are not permitted to bring in new innovations that are combined with jeopardizing the livelihood of the poor. This is maintained by Rabbi Kluger and rejected by Rabbi Nathanson.

8) According to Rabbi Kluger there is the danger of the difficulty of supervision that all will be made in accordance with halacha if the machine matzot are permitted. If a blanket permission is granted a great danger would take place.

9) Rabbi Kluger fears that with the production of machine-made matzot many matzot will be baked in one operation; some will be perforated and others would remain without being worked or kneaded over a period of time thus rendering them chametz (leaven).

Rabbi Nathanson has no such fears.

10) With a machine operation because of closed-in quarters the intense heat will bring on the process of fermentation much quicker. There is a serious problem when matzot are prepared (baked) by minors although it is done in complete accord with Jewish law. This matza would be
unacceptable for it lacks the Biblical requirement, "Leshem Mitzvot Matzo", for the sake of the mitzvah of matza. Thus if prepared by a minor that requirement is lacking. This is the view of Rabbi Kluger.

Rabbi Nathanson disagrees.

11) Rabbi Kluger claims that it is necessary to have the actual making of the matza through the physical initiative of an adult.

12) Rabbi Kluger held that if one makes the rollers go around as a result of an act on his part once removed, that is unacceptable; it is considered Koach Kocho. So claims Rabbi Kluger.

13) Rabbi Kluger maintains that if an adult supervises such an operation of an inanimate object like a machine it is of no avail for this is considered machshava (thought) without ma-asah (an act), namely, it is well-intentioned but not halachically fulfilled. He points out that it is the machine which functions and not the supervisor who oversees the work.

14) Rabbi Hayyim Halberstam states that there are many reasons for disqualifying such machine matzot, too numerous to mention. However, one area seems to be most serious. He says that it is too difficult to scrape all the areas where such machine matzot are baked. Then he continues, "it is sufficient enough to merely state that such matzot are forbidden and Rabbis must not go into detail explaining the reasons for their decision."
Since the period of the exodus, the Jews have conscientiously observed the commandment to eat matza. In the centuries that passed since then the method of producing these matzot was subject to only minor modification or change. With the advent of automation the old ways and methods were challenged and the halacha was taxed to resolve this problem. It was, however, more than just a question concerning baking method and procedure. It was a challenge to halacha itself, questioning its ability and applicability in a new age.

The two leading figures in the great controversy, Rabbi Nathanson and Rabbi Kluger, demonstrated charity and forthrightness in their own respective approach, thus bringing about a correct interpretation of Jewish Law. We are encouraged by the genuine approach of Rabbi Nathanson and the methods he employs to solve the automation problem in the light of Halachah.

It would appear that the Dialectic of Halachah by Dr. Emanuel Rackman touches upon those vital areas of Rabbinic and Biblical interpretation. He states on p. 131:

Many who are presently called upon to resolve questions of Jewish Law are often oblivious to the antinomies which are implicit in their subject. Altogether too frequently they seize upon one or another of two or more possible antithetical values of interests between which the Halachah veers, and they assume that there must be an exclusive commitment to that single norm. The dialectic of the Talmud, however, reveals quite the contrary. Implicit almost in every discussion is a balancing of conflicting values and interests which the law seeks to advance. And if the Halachah is to be viable and at the same time conserve its method and
its spirit, we must reckon with the opposing values where such antinomies exist.

Dr. Rackman continues on p. 133:

The need to achieve equilibrium among values is even more apparent when one is dealing with the rules of law themselves. Particularly in the area of personal status do we find the dialectic of the Talmud balancing opposing interest and veering between antithetical values.

Crystalizing Rabbi Rackman's thinking, it would appear that the approach of a Hillel would tend to retain the value and spirit of the law vis a vis the problem of machine matzot. (76)

With the advent of the machine for the baking of matzot, and the introduction of automation into the observance of Halacha, an entirely new avenue of approach opens before us. It remains for the scholars who follow to discuss this modern aspect of observance and render their decision thereon.
EXHIBIT A

Department of Zoology
Washington University
St. Louis, Mo.

January 15th, 1903

Rabbi Z. Rosenfeld,
1007 N. Tenth Street
City

Dear Sir:

In answer to your inquiry in regard to the effect of artificial current on the temperature, let me say:— Any artificial current of air produced by an electric fan or other means, does not in reality lower the temperature in the least, but gives us the sensation of coolness because it increases the evaporation of moisture from our skin by carrying away the moisture laden air which surrounds our bodies. The same would be true in the souring of dough. The current of air would have no effect on this process, because the surrounding temperature would not be appreciably affected unless cold air was let in from the outside. There is a possibility that the evaporation of water from the dough would be increased by the air current and this might have a very slight slowing effect on the process of fermentation; but I do not think that it would be sufficient to be discernable.

Very Sincerely Yours,

ARTHUR W. GREELEY
Dear Sir:

I am authorized by the Secretary to inform you that the mere stirring of air by an electric fan does not cool the air. Its cooling action upon the human body is due to acceleration of evaporation of the moisture of the skin. Evaporation produces real and not merely apparent cooling.

The souring of dough depends on these multiplying of a certain species of minute living organisms, and this multiplies faster at certain temperatures then at others. Hence the action of a fan blowing directly upon the dough or upon a moist vessel containing it, might or might not delay souring, for while the blast of air would cool any moist surface it touched, the cooling might not be sufficient to delay the fermentation, or might at certain temperatures even hasten it.

If, however, cooling is desirable, it can assuredly be produced by a fan blower if the body to be cooled is kept moist on the outside.

Very respectfully yours,

(Signed) F. W. Hodges,
Assistant in Charge of Office.

Rabbi Z. Rosenfield,
1007 North 10th Street,
St. Louis, Mo.
### ABBREVIATIONS

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<tr>
<td>Deut.</td>
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<td>Genesis</td>
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<td>HJNY</td>
<td>History of the Jews of New York</td>
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<td>JE</td>
<td>Jewish Encyclopedia</td>
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<td>JPS</td>
<td>Jewish Publication Society</td>
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<td>Lev.</td>
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FOOTNOTES

1. Matzot (singular matza); "Bread that is free from leaven or other foreign elements. It is kneaded with water and without yeast or any other chemical effervescent substance, and is hastily prepared to prevent the dough from undergoing the process of spontaneous fermentation which would make it "hamez" (leavened bread)." The Jewish Encyclopedia, Funk & Wagnalls, 1912, Vol. VIII, p. 393, New York.


3. Chometz usually results when one of five types of grain (wheat, rye, spelt (winter wheat), barley and oats) is allowed to remain undisturbed in contact with water for 18 minutes or more.

4. Ibid. XII, 17.

5. Ibid., XII, 18.

6. Ibid., XII, 19, 20.

7. Ibid., XII, 33.

8. Ibid., XII, 39.


10. Deuteronomy XVI, 3.


12. Ibid., XVI, 8, p. 85b.

13. Ibid.

14. Genesis XVIII, 6. The explanation of Rashi here tends to contradict this theory. He says this dough was to be placed over the top of the pot to absorb the scum which floats when cooking. Rashi also makes reference to B. Metzia 86b, where this sentence is quoted. He states there that the dough was used on the pot to absorb the vapor and steam given off when cooking.

16. "וכך_python" כ"יה ימים, "וא"ח זכרון זכרותו א"ת ו"ה יצוהי ר'".
17. "רא"ש כ"יה ימים, "וא"ח זכרון זכרותו א"ת ו"ה יצוהי ר'" שם.
18. "וא"ח זכרון זכרותו א"ת ו"ה יצוהי ר'" משנה ברכות ט"ק ב"א.

18a. In the Talmud Hulin: "2a, it states that everyone may slaughter for ritual purposes with the exception of deaf-mute, insane and child, because they are not ritually qualified." Similarly, they (deaf-mute, insane and child) may not participate in such baking of matzot.

18b. In Exodus 12:15 it states "Shivas Yomin Matzohs Tocheylu" "ye shall eat matzohs for seven days and in Dvorim 16 it states, "for six days shall ye eat matzohs". From this he makes a deduction that not only on the seventh day of Passover is the eating of matzoh optional but likewise throughout the six days. As the Talmud states in Psachim 28, "this is a rule in the Torah, something which was in the generalization and afterwards specified to teach us something new, is expressly stated not only for its own sake, but to teach us something additional concerning all the instances implied in the generalization. Just as the seventh day is optional (as far as eating matzoh is concerned so are all six days of Passover optional for the eating of matzoh. We would, however, assume that even on the first night of Passover the eating of matzot should also be optional so that Torah teaches us "ye shall eat matzohs in the evening", the passage in the Torah established it as a mandatory law.

18c. Codes.....(108.1)


19a. Mishna Brura Orah Hayyim, loc. cit. Biur Halacha (Clear law)

19b. Mishna Brura Orah Hayyim, loc. cit. Shaare Tshuva (gates of repentence)

20. Taamei Hamenhogim (reasons for the customs), Lemberg; David Roth, p. 161, par. 2
22. Pes. 36a.
23. Pes. 94b.
25. Pes. 48b.
29. Pes. 37a.
30. Almost twenty years later, in about 1875, matza baking machinery was introduced to England and the United States. The reference of Grinstein, being from a primary source, states the correct date of 1850.
33. I could not find a specific date. Most likely Rabbi Hayyim Dembitzer of Cracow inquired of Rabbi Kluger concerning the kashrut of the new production.
34. Solomon Kluger, known as the "Maharshak", was born in Komorov, Poland in 1783 and died in 1869. A famous preacher and writer, he served as Chief Rabbi of Brody for fifty years. He is best known for his innovation in divorce law where he authorized the use of public mail for delivering a g&i, the Jewish divorce document.
35. Rabbi Hayyim Nathan Dembitzer was born in Poland in 1820 and died there in 1892. He was a distinguished Talmudist and devoted his life to the investigation of responsa literature.
36. Rabbi Hayyim Halberstam took a firm stand on the machine-made matzot, not as a result of first-hand knowledge of the method in question, but rather on the basis of information received from friends, as indicated in Divrei Hayyim (The Words of Hayyim) (Lwow, 1875), responsa 25, 24.
37. Rabbi Mordecai Zev Ettinger, born in Lemberg, Poland, 1804, he published M'eras Aynayim in 1839 and M'foroshe hayomin in 1828, and Ma'mar Mordechai in Lemberg, together with Rabbi Nathanson.

38. The slightest bit of dough remaining on the vat renders the new dough chametz.

39. Rabbi Baruch Teomin Fraenkel was Rabbi and head of the Bet Din of Vishnitz and later Rabbi and head of the Bet Din of Leipnick, both in Moravia, during the period of the Chasam Sofer of Pressburgh. He was the father-in-law of Rabbi Hayyim Halberstam of Sanz, author of the Divrei Chaim. He wrote a book of Chidushei Torah (novellae) on the Talmud, Boruch Tom and a collection of responsa, Ateret Chachamim. He also wrote commentaries on the Mishna and various other works. A direct descendant of his is Rabbi Baruch Schneerson, the head of the Tchubiner Yeshiva in Israel. Dates of birth and death were not given. c.f. Chanes, Simon Toldot Ha-poskim, p. 123.

40. Divrei Chaim, res. 23. He states that "a prominent businessman told me what he saw. It is absolutely chametz. As a result of this statement, the supervising rabbi was sorry he sanctioned it."

41. Shaatnes, a mixture of fabrics (linen and wool) Deut. 32.12, "Thou shalt not wear mingled stuff, wool and linen together". When tzitzit (fringes) are made, care must be exercised that there is no mixture of fabrics which are forbidden. If they were made by machine, the rabbis feared that their manufacture would not be according to Jewish Law.

42. He is making reference to the machine that makes tzitzit.

43. Rabbi Halberstam draws an analogy here between the requirements of matza shmura and the machine that manufactures tzitzit.

44. According to the halachic ruling no moisture may come in contact with wheat lest it begin to leaven.

45. Kluger, Solomon, Ha'elef Lecha Shlomoh (Myriads to Solomon) (New York; Mefitze Torah, 1950), IV, res. 15.

46. Ha'elef Lecha Shlomoh, IV, res. 15.
47. Chulin, 2a. It states that everyone may slaughter for ritual purposes with the exception of deaf-mute, insane and child, because they are not ritually qualified. Similarly they (deaf-mute, insane and child) may not participate in such baking of matzot.

48. Ibid., Chilin, 2a.

49. Matza mitza requires constant supervision from the moment the wheat is cut until the completion of the baking process. No water or trace of water may come in contact with the wheat.

50. Frehoff, published at the end of Yam ha-Talmud, Lemberg, 1827, p. 92.

51. Rabbi Meir Auerbach of Calish originally sided with Rabbi Kluger in 1858; however, when reaching Jerusalem later he was convinced through actual observation that it was in accordance with Jewish Law.

52. Rabbi Hayyim Halberstam was born in Tarnegrad, Poland and died in Sanz in 1876. He published works such as notes on the Bible.

53. Rabbi Moshe Nahiem Jerusalemski was one of the leading Talmudists of the day who lived in Kielitz and was recognized for his outstanding work, Minchas Moshe (A Gift of Moshe).

54. Rabbi Abraham Sofer was a great Rabbinic leader who lived in Pressberg, Hungary. A son of the great Torah giant, Chasam Sofer, he wrote a great Responsa Ksav Sofer (Writing of the scribe). He lived in the nineteenth century. No date given in J.E.

55. Rabbi Jacob Ettinger was a leading European Rabbi who was born in Karlsruhe in 1798 and died in Altona in 1871. He was one of the first Rabbis to combine religious and secular studies without diminishing his allegiance to Torah. Among his disciples were men like Rabbi Samson Rafael Hirsh and Rabbi Yisrael Hildisheimer.

56. Rabbi Isaac Bamberger of Wurtzberg was born in 1807, died in 1878; he was an outstanding rabbinic authority who wrote several works; among them were Moreh Lizvochim 1 Schita, Nachalat Dvash and Koreh B'emet.

57. Rabbi Mordecai Schwadron was an outstanding Talmudist of the 19th century, to whom questions were addressed from the entire world. Rabbi Rosenfeld, the Chief Rabbi of St. Louis put the question to him concerning the
baking of 30 lbs. of dough at one time, as to whether fermentation doesn't set in. He goes into a lengthy response in his famous Responsa of the Maharsham, (Barzon, 1902).

58. Rabbi Shmuel Salant was the Chief Rabbi of the Ashkenazic Community in Jerusalem. He was born in Bialystock, Russia in 1816 and died in Jerusalem in 1909. He took an active role in the machine-made matza problem and took the lenient view.


60. He expresses a deep concern of splitting the European Jewish Community into two groups. Such a split can bring a further breakdown of authority of the rabbinic leaders.

61. In addition to his opinion in res. 32 in Haielef Lecha Shlomoh, he renders two additional opinions in res. 33, pp. 16-17 and res. 34, pp. 17-18.

62. See his Be'er Moshe, no. 27, p. 52. The letter is reprinted in the Sde Hemed on p. 194 after the laws of Hanuka.

63. Moses Jerusalemski's letter which is printed in the Sde Hemed, p. 194, namely that new innovations such as this cause a complete breakdown and collapse of the Jewish life.

64. Shulchan Aruch Orach Chaim, 372. Rabbi Abraham Bornstein, Rebbe of Sokolov was born in 1839 in Bendin, Poland. He was a student of Rabbi Henoch HaCohen Levin, the Alexander Rebbe and after his death, he was chosen to replace him in 1870. He was chosen as Rebbe and head of the Bet Din of Sokolov in 1883 and served in that position until his death in 1910. He wrote Aglei Tal on the laws of Sabbath and several volumes of responsa entitled Evnei Nezer.

65. See Sde Hemed, Chametz U-Matza, p. 98, column 1.

66. Sde Hemed, p. 95, column 1.

67. Hand matzot are still baked on the East Side in New York City, however, it is not done elsewhere in the United States, except in Chicago and Los Angeles.

68. See Responsa of Maharsham, Vol. II, No. 17, near the end.

69. Rabbi Zachariah Joseph Rosenfeld was the Chief Rabbi of St. Louis during the early nineteen hundreds. He
wrote a well known book entitled Joseph Tikva, in 1902 which dealt at length with this problem.

69a. Sheelot Utshurot Maharsham Res. 16, p. 31 states: "if everything is performed properly as (previously) explained it is then permissible to follow through (with the use of machines) for the baking of matzot."

70. There is an old concept concerning the performance of such a ritual act. If it is an act of man, it is considered as if he had performed it. However, if it is an act of the man once removed, it is no longer considered his action.

71. Responsa Maharsham, No. 16, column 1, p. 31, at bottom.

72. The afikomen is a piece of matza that is hidden at the beginning of the Seder and is eaten at its conclusion. This matza must likewise be matza mitzva.

73. Orah Hayyim, 119.12.

74. Haelef Lecha Shlomo, p. 16, col. 1.
