

"On the Limited Use of Electronics on Shabbat: Microwave heating of cooked foods and the reading and conversing on electronic devices."

OH 305:18.2012d

by Rabbi Elie Kaplan Spitz

*This paper was submitted, in November 2012, as a dissent to "The Use of Electrical and Electronic Devices on Shabbat" by Daniel Nevins. Dissenting and concurring papers are not official positions of the CJLS.*

### **A Preamble to a dissent**

On October 24, 2012 the CJLS discussed for several hours the *teshuvah* that follows and is now submitted as a dissent. The tenor of comments was largely personal practice, focusing on the need to keep Shabbat separate and distinct from the rest of the workweek.

During those discussions Attorney Marc Gary, a representative of United Synagogue, rebutted that we cannot view electronic devices as necessarily anti-Shabbat. The terrain on which we live, he emphasized, is as much technology as nature, creating a need to distinguish between permitted and forbidden uses of technology on Shabbat. Mr. Gary concluded that reading a book on an electronic device is different than the creative act of writing and should be permitted.

On the topic of reading devices, I now note that Rabbi Charles Simon in Conservative Judaism's *Kolot Magazine* (Winter 2012) in an article entitled, "Can the People of the Book become the People of the IPAD?" wrote: "If we desire future generations of modern Jews to attend and become more learned and comfortable on Shabbat and holiday in our sanctuaries we need to recognize that the definition of book is changing from one which is printed on paper to one which is composed of pixels and we need to respond proactively." As I will present in the dissent that follows the stated prohibition of using a reading device is largely a matter of trust. Our constituents can restrain themselves by the distinction of permitted and forbidden uses, which is no different than the trust that we have placed in them by acknowledging that flicking electrical switches for light is permitted, but not for cooking. As an aside, the new iPad can now be set for reading only.

I am concerned about the stringent tenor of the CJLS paper that passed with overwhelming support. As a Conservative Movement, we have usually engaged in halakhic analysis that has taken into account changing needs and resources in more open ways than those to our right. I thank Rabbi Aaron Alexander for sharing with the committee Rabbi Ovadia Yosef's summary of halakhic literature on the use of microwaves in which the contemporary *Sefardic posek* rejects Rabbi Moshe Feinstein's characterization of the microwave as *bishul*, cooking [*Hazon Ovadia, Hilkot Mivashel*, 402-405]. The CJLS holding that the use of a microwave oven on

Shabbat is “forbidden as a *toledah bishul*,” a violation of a Torah decree, is more restrictive than the holdings of Rabbis Ovadia Yosef or J. David Bleich, the well-regarded Yeshivah University Talmud professor.

After the CJLS discussion, Rabbi Ashira Konigsburg, the committee’s administrator, raised a couple of substantive challenges to the use of the microwave that were not dealt with in either Rabbi Nevins’ teshuvah or mine:

1. The microwave serves to excite the water molecules, is this not the equivalent of the boiling of water, which is forbidden on Shabbat?

2. To use a microwave means to actively choose the heating time, which is quite different than the use of a preset heating device.

Regarding the boiling issue, I subsequently spoke with a chemist in my community, Dr. Neil Spingarn. “Microwaving,” he emphasized, “creates heat by friction as the microwave-excited molecules rub against each other and their surrounding material. In reheating, there is no intent or desire to boil water out of the food. In contrast, normal boiling is heating with the intention to raise water to a certain temperature, 100 degrees Celsius. Use of a microwave for heating is not to boil water but to produce enough frictional heat to warm the food to a suitable temperature. Yes, there is steam given off whether in using a microwave or a hotplate and some water will evaporate, but that is true of a cup of water left out in normal room temperature or a drop of water that falls on a floor and evaporates. When the intention of using a microwave is to heat, it is not functionally different from the widely permitted use of a hotplate and indeed should be more acceptable since fewer chemical reactions (i.e., cooking) takes place in a microwave than on a hotplate. For example, you can readily char bread on a hotplate but not in a microwave.”

As to the second question, this is even more of a challenge for permitting the use of a microwave. Heating food on Shabbat is the focus of a lengthy discussion in the Talmud (Shabbat 36b-42b). There are two key concerns, *shemah yehateh bigihalem*, “you will stoke the coals”, violating the Torah rule against igniting fire and the rabbinic concern of *m’hazei kimivashel*, “it looks like you are cooking.” The first concern of stoking the coals is no longer applicable due to not using open coal flames (except when barbequing), which is the rabbinic basis for those rabbis who permit the use of a hotplate on Shabbat. The second concern is more challenging. A hotplate’s temperature is set before Shabbat or in modern practice the knobs of an oven are not adjusted during the holyday. In contrast, in using a microwave we are choosing the setting on Shabbat and it could look like we are cooking or could lead to the temptation to use the same device to do more than simply warm cooked food. From my perspective, this is a strong reason not to use a microwave on Shabbat, but I would not go so far as to say that it either violates a Torah decree or would I proscribe a rabbinic prohibition. As with electricity, we have allowed for the active engagement with technology trusting that distinctions of forbidden and permitted are discernable. The act itself of heating food in the microwave is permitted, as will be

further developed in the dissent that follows.

I too encourage unplugging from electronic devices as the ideal to demarcate Shabbat as a day set apart from the rest of the week. It is better to skype family before or after Shabbat. It is preferable to use a device to heat cooked solid food that is designated just for Shabbat and with preset temperatures. And yet, halakhic analysis matters. These acts are not violations of Torah nor need necessarily be prohibited rabbinically. As for e-readers, this is the technology of most value for our constituents and we should offer guidance to offer Shabbat access now. Process matters, which is the main focus of this dissent. I hope that my analysis will promote further discussion on the nature of Halakhah-making in the Conservative Movement and will be referred to when the CJLS deliberates again on these important topics.

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***She'elot:***

Is it permitted on Shabbat to do the following: Warm cooked solids in a microwave?  
Read on an e-reader? Converse using an electronic device with a loved one?

**Overview:**

This *teshuvah* would permit limited uses of electronic devices on Shabbat, specifically heating solid foods in a microwave, reading with an e-reader, and conversing using a phone or by skyping. Initially, this analysis was written as a dissent to Rabbi Nevins' *teshuvah*. But, the issues are worthy of discussion before the CJLS and will also allow Rabbi Nevins and others to challenge my conclusions, which would not be true by submitting a written dissent. This *teshuvah* differs from Rabbi Nevins' holdings in three essential ways:

1. Concluding that the use of electronic devices is curtailed by *d'rabban* considerations, rather than as a *d'oraita* violation.
2. Examining the use of electronic devices on a formalistic halakhic basis, rather than with a broad functional definition of "cooking" or "writing."

3. Trusting that our constituents may make distinctions in their limited, permitted use of electronic devices on Shabbat.

We have precedent for members of the CJLS voting for two opposing *teshuvot* on the basis of “this too is a legitimate reading of the sources.” For instance, on end of life issues opposing papers were written by Rabbis Dorff and Reisner (1990) and some colleagues voted for both of them. On the question of *taharat mishpacha* there were three separate *teshuvot* (2006- Grossman, Berkowitz, and Reisner)- differing in approach, theology and some conclusions, and yet, Rabbis Dorff and Roth voted for each of them. On the topic of homosexuality, Rabbi Adam Kligfeld voted for the *teshuvah* by Dorff, Nevins, and Reisner and the countervailing presentation by Roth (2006). It is my hope that although many of my colleagues voted in favor of Rabbi Nevins’ *teshuvah* and his holdings on electronic devices that they might also support this *teshuvah*.

### **Lessons learned from CJLS acceptance of electricity on Shabbat**

This analysis concurs with CJLS’ reaffirmation of the Conservative Movement’s widespread use of electricity on Shabbat as neither a violation of *bi’ur mavir* (burning) or *boneh* (construction). Rabbi Nevins’ detailed *teshuvah* contributes to our understanding of the nature of electricity, both scientifically and halachically. His analysis builds on the 1950 CJLS *teshuvah* authored by Rabbi Neulander, which received a majority vote of the CJLS. Not all Conservative rabbis agreed with Rabbi Neulander’s formalistic analysis based on the formalistic halachic definition of fire. Among the influential dissenters was Rabbi Isaac Klein who took a functional approach. He wrote,

The difficulties with this decision are not only halakhic. In common parlance we certainly associate electricity with fire because it is used for the same purposes as fire: illumination, heating, electricity, cooking, and burning. The empirical argument that the use of electric lights adds to the joy of the Sabbath is too subjective” (*A Guide to Jewish Religious Practice*, NY, Jewish Theological Seminary, 1979, p.87).

Essentially, Rabbi Klein’s argument, shared by many Orthodox *posekim* in our day, is that regardless of the actual mechanism of electricity, the purposes and results of electricity are so similar to fire that electricity equals fire. Rabbi Nevins’ detailed examination of electricity is primarily formalistic. He demonstrates that the use of electricity is technologically distinctive from cooking or combustion as narrowly understood by the rabbis, and that likewise, the opening and closing of electrical circuits is not building.

Among the current leaders of the Conservative movement, as evidenced by the favorable CJLS vote on the Nevins’ *teshuvah*, there is a broad acceptance of turning lights on and off on Shabbat. Yet, among our Orthodox co-religionists, the active use of electricity is widely held as a blatant Shabbat violation. As Rabbi Nevins testifies, “For many Shabbat observers, the flick of an electrical switch is tantamount to *הילול שבת*, the desecration of

Shabbat” ... [having] the advantage that “it is relatively simple to explain and to enforce” (p.4). And yet, “...simplicity itself is not a halakhic goal...it is possible to develop careful policies about what electrical appliances may be used without violating the laws of Shabbat” (p.5). A modern-Orthodox friend who read the Nevins’ *teshuvah* exclaimed, “I am sure glad that I am not Conservative.” I admire this friend and appreciate his uneasiness with the active use of electricity as both too close to fire in its usage and as crossing a taboo by engagement with technology. At the same time, I celebrate that I am a Conservative Jew: reassessing past practices, parsing distinctions, and embracing a balance of the old and the new.

A handful of guiding lessons derived from the CJLS’ recent holding on electricity:

1. Our movement’s *teshuvot* are written for those who seek to lead *halakhic* lives, valuing our unfolding tradition as a vehicle to spiritual depth and fulfilling our people’s covenant with God.
2. Fire is defined narrowly, entailing combustion and residue, derived from a formalistic analysis of the Biblical category of fire, rather than the use of a functional definition that would include light. Although light is a sought by-product of fire, we distinguish between the forbidden act of burning and the halakhically-neutral production of light. Similarly, the warming of wires is not technically a form of cooking nor is the opening and closing of an electrical circuit akin to building.
3. We are not necessarily bound by restrictions of an earlier generation, whether as a result of *minhag* or functional similarity.
4. Although electricity must not be used for forbidden acts on Shabbat, such as cooking or heating, we trust that *shomer Shabbat* constituents will make distinctions and exert self-restraint. Slippery slope concerns prompt caution, but not paralysis, let alone a necessary prohibition.
5. Determining which activities are in the spirit of Shabbat and not *uvdin d’hol* (weekday activity) is separate and distinct from what is technically permitted or forbidden and there is a personal and communal, subjective dimension to what is *Shabbasdik*.

### **What prompts this reassessment?**

I know *shomer Shabbat* Jews who on the Sabbath heat solid foods in a microwave, call their grandchildren for a skype conversation, or read books on an e-reader. I may not personally do these activities on Shabbat, but I insist on great caution in claiming that they are sinners who are violating the Torah. After all the activities themselves- heating, conversing and reading- are permitted on Shabbat and add to the joy of the day for them. I am reminded of the account in the Talmud that there was a consensus among the rabbis that a judge needed two good eyes in order to adjudicate a case, based on the analogy to the Biblical command for the priest who in examining a

leper needed to use his “eyes” (Leviticus 13:12). As it turned out, Rabbi Yoḥanan had a neighbor who served as a judge and did so with only one working eye. Rabbi Yoḥanan, the Talmud records, found another *Baraita*, which allowed him to permit his neighbor to continue to judge (Niddah 50a). We are each influenced in how we examine law by our own life experience. Law, unlike algebra, has a subjective dimension as to the weight that we give to conflicting values and how we read and choose precedent.

### **Identifying a methodological inconsistency**

Rabbi Nevins shifts his methodology when he approaches the topic of electronics. He writes, “If the physical mechanism (פעולה) is different from that of the primary prohibition, but the purpose and the result (תכלית) are identical, then an activity is considered forbidden as a toledah or derivative of the primary category.” This functional methodology is patently contradicted in the Talmud. The structural mechanism matters whether in defining “fire” or “cooking.” For instance, there is a lengthy discussion in the Talmud that solar cooking, including the use of the hot baths of Tiberias for cooking, is permitted. Not all transformations by heat of a raw item into an eatable state on Shabbat are Biblical violations in the Talmud.

Those early rabbis, the Tanaaim and Amoraim, consistently narrowed the categories of Biblical Shabbat rules because the outcome of their violation was *skilah*, “communal stoning.”<sup>1</sup> Rabbi Nevins will rely on the reasoning of Rabbi Moshe Feinstein to apply a functional test “of common and effective” as to what is cooking and a determination that microwave cooking is forbidden by a Torah decree. The Talmudic principle is “*safek d’oraita l’humra, safek d’rabbanan l’kula*”- “if there is doubt concerning a Torah law we judge toward severity; if the doubt concerns a rabbinic decree we judge toward leniency.” This is precisely why determining if the use of a microwave is a rabbinic decree or a Torah mandate matters and warrants close examination.

### **The microwave oven**

A microwave oven uses a whole new technology for cooking. Electromagnetic waves cause molecules of water to vibrate and as movement is energy the item in the microwave oven heats. Unless there are water molecules nothing happens. That is why the paper, glass or plastic beneath the food in a microwave remains unchanged. Technically, a microwave does not heat solids, only water molecules. The discovery of the use of the microwave for “cooking” resulted from an accident. Just after World War II, Dr. Percy Spencer, was working for Raytheon investigating radar waves. One day this self-taught engineer noticed that the Mr. Goodbar chocolate bar in his pocket had melted. He wondered whether the change was due to the radar waves. He directed radar waves toward popcorn and sure enough they popped. Raytheon patented Spencer’s microwave cooking process in 1945 and soon placed a large device with a magnetron in a Boston restaurant to test the use of microwaves for cooking. A countertop microwave oven useable for home kitchens reached the market in 1967.

Regarding the use of a microwave on Shabbat, placing a piece of bread on a hot plate

(*blech* in Yiddish; *plata* in Hebrew) produces results more similar to using a flame than does a microwave. That piece of bread placed on the *blech* gets toasty, while in the microwave it turns soggy. In daily use, the microwave is widely used for heating solids or boiling water, but is not usually used for cooking solids. Perhaps a microwave is preferable for heating than a hot plate in that it is more removed from the results of fire.<sup>2</sup> But that too, begs the question: What is the Biblical prohibition of cooking?

### **What is the Biblical prohibition of cooking?**

Cooking food in the Mishnah (Shabbat 7:2) is not specifically mentioned as one of the forbidden thirty-nine labors. Instead, baking (*ofeh*) is listed. Baking is identified with the preparation of the *lehem panim*, the twelve, weekly, shew-bread loaves placed in the sanctuary. In the ensuing discussion in the Talmud, (see Shabbat 74b) the category of cooking (*bishul*) is raised and identified by the Amoraim as a forbidden labor on Shabbat, too. Rashi links the prohibition of *bishul* to “fire used to heat herbs to make dyes” that was used in the fashioning of the Tabernacle (Shabbat 73a, *viz. mikhabeh v’mav’er*). In essence, the acts of baking and cooking are merged in the Talmud as forbidden labor. The usual method of cooking at that time was placing items over burning wood. This is exactly the analysis that Rabbi Nevins’ makes in looking at electricity, namely fire entailed combustion and residue (pp.20-29).

The Talmud (Shabbat 39a) raises the question whether using the sun for cooking food is also prohibited and without dissent holds that it is not. The decision rests on the source of the energy and not the outcome. The ensuing debate in the Talmud is over the secondary uses of solar heated items. The example given is of a scarf that is baked in the sun in order to roast an egg, which the sages forbid and Rabbi Yosi permits. The sages holding is explained in the text, “We decree [that a person may not cook with] derivatives of the sun because of [the possibility that these might be confused with] derivatives of fire.” And yet, as Rabbi Nahman had emphasized on the same page concerning cooking, “in the sun all agree that it is permissible.”

Rashi in Troyes, France of the 11<sup>th</sup> century confronted a tension in the text. Why is direct solar heating of food also not prohibited? After all, the outcome is the same as with the use of fire. It is unclear if Rashi’s unstated question is whether the rabbis did not determine direct solar heating as *d’oraita toledah* [a Biblical derivative] or why they refrained from legislating against it [*gezerah d’rabbanan*], like the sun-heated rags. Rashi comments [s.v. *d’sharei*], “it is not the usual way to cook and the energy of the sun will not be mixed-up [with the use of fire, so as to need] to promulgate this one because of that one.” What is clear is that solar cooking is not determined in the Talmud as the same as the Biblical violation of using fire to cook. The physical process of preparing food does matter and not just the outcome. Much will hinge on definitions. For our consideration, is using the microwave a Biblical violation of “cooking” akin to the use of fire and wood?

### **Rabbi Moshe Feinstein’s holding on microwave ovens**

Nine hundred years after Rashi, Rabbi Moshe Feinstein in New York City writes a



letter to Rabbi Eliezer Nahum Eisenberg. The prompting question is unstated, but the *teshuvah* is entitled “on the matter of cooking with the sun” (*Igros Moshe, OH 3:52*). Rabbi Feinstein tries to explain what Rashi meant by his cryptic comment concerning cooking with the sun. Rabbi Feinstein emphasizes that it is clear to all that cooking directly with the sun or the hot spring of Tiberius is permitted. He explains that the reason is that in boiling the dyes for the Tabernacle the “cooking” was done with wood and fire. He suggests that efficiency was not the criteria for what is forbidden when he explains that a pot of food placed near a fire is still cooking, even if not placed directly on the fire. He reiterates that the reason for the lack of a prohibition against solar cooking was that it was uncommon.

In the middle of this twelve-paragraph letter, there are two paragraphs in which Rabbi Feinstein addresses the question of microwaves. He acknowledges that “microwave ovens” are still uncommon, but efficient and much used by those who have them. He predicts that when they become more available they will become commonly used. He does not address how the microwave oven works, and whether its use is more like the sun or a fire. Rabbi Feinstein’s analysis of Rashi’s comment is hard to follow, because it is disjointed.<sup>3</sup> Rabbi Feinstein does state that microwaves are forbidden on Shabbat as a “common” form of cooking. Among his many *teshuvot*, this is Rabbi Feinstein’s only pronouncement on microwaves and many will rely on his holding.

Rabbi Feinstein’s writing meanders, which leads to uncertainty as to his reasoning. For instance, in an article, “The Shabbos Queen Meets the High-Tech King: Technology and the Spirit of Shabbos,” Rabbi Shlomo Cohen notes that Rabbi Feinstein never described how microwaves operate and concludes, “Reb Moshe discusses microwave ovens and determines that the Isur is one of Toldas HaOhr. The responsa was written in 1971 and Reb Moshe, himself, writes that they were not widespread at the time. Reb Moshe seems to be determining that the oven operates on electricity, and the electricity is the Ohr rendering the cooking a Toldah of fire” [[www.hiqjew.com/halacha/shabbos/shabbos.htm](http://www.hiqjew.com/halacha/shabbos/shabbos.htm)]. Other Orthodox writers would directly object to Rabbi Feinstein’s reading of Rashi as the basis for a new Biblical definition of “cooking.”

### **Modern Orthodox objections to Rabbi Feinstein’s analysis of “cooking.”**

Rabbi J. David Bleich, professor of Talmud at Yeshiva University, examines Rabbi Feinstein’s expanded definition of Biblical cooking [J. David Bleich, *Contemporary Halakhic Problems*, vol. 4 (NY: Ktav, 1995), p. 107]. He rejects Rabbi Feinstein’s reading of Rashi as defining “cooking” as “usual and common.” Rabbi Bleich is troubled by the practical implications of such a broad reading. Among those consequences, according to Bleich, is a prohibition of solar heaters on Shabbat. He notes that already in the 17<sup>th</sup> century, Rabbi Avraham Gobiner (*Magen Avraham, Orah Hayim 301:57*) compared drying clothes in the sun to cooking by means of solar rays and ruled that drying clothes in the sun on Shabbat involved no biblical transgression. He shares the objections of Rabbi Benjamin Silber (*Oz Nidberu* I, no. 34) and Rabbi Shlomo Zalman Auerbach (see Rabbi Joshua Neuwirth, *Shemirah Shabbat ke-Hilkhatah*, 2<sup>nd</sup> ed., Jerusalem, 5739, p.1, note 127) who contend that if Rashi forbade solar only on the basis of “usual and common” than heating tap water would constitute a form of cooking, a conclusion that they reject.

Rabbi Bleich bolsters these challenges to Rashi's reading of sunlight as uncommon cooking by citing the insight of Rabbi Avraham Borenstein (Poland, 1838-1910; *Eglei Tal, Melekhof Ofeh*, sec. 44). Regarding the Paschal lamb, the Torah commands, "Do not eat any of it raw or cooked in any fashion with water..." (Exodus 12:9). Yet, in *Pesachim* 41a the sages permit the boiling of the Paschal sacrifice in the hot waters of Tiberius, which the rabbis of the Talmud believed were solar heated. Other unusual forms of cooking the Paschal lamb are prohibited. Rabbi Bornstein concludes that solar cooking is simply not "cooking," and hence, has nothing to do with its lack of commonality. Hence, Rashi's definition fails to take into account the broader Talmudic conversation on "cooking."

Rashi aside, Rabbi Bleich rejects Rabbi Feinstein's holding on microwaves as a Biblical violation of "cooking." He writes:

Moreover, even if Iggerot Mosheh's understanding of Rashi is accepted as correct, it seems to this writer that his conclusion to the effect that cooking in the microwave oven on Shabbat is a transgression of a biblical prohibition does not necessarily follow. Whether or not use of solar heat is sufficiently similar to the mode of cooking employed in the construction of the Tabernacle to constitute an analogous form of cooking may well be a matter of debate. However, the basic principle, *viz.*, that only those modes of cooking are forbidden that are similar in nature to the type of cooking employed in the construction of the Tabernacle is unexceptional. The cooking employed in the making of dyes involved the transfer of heat from one body to another, *ie.* from the flame to the dyes. Thus, transfer of heat seems to be a necessary condition of "cooking" as an activity prohibited on Shabbat. Indeed, it is certainly arguable that this element is a *sine qua non* of the definition of cooking as a halakhic concept for all areas of Jewish law. Heat generated by microwaves involves no transfer of heat whatsoever; rather it is still *sui generis* to the foodstuff itself. If so, not only would microwave cooking be excluded from the biblical prohibition against cooking on Shabbat, but boiling the paschal sacrifice in water heated by microwave would not constitute a violation of the prohibition against cooking the sacrifice.

It further appears to this writer that microwave cooking on Shabbat does not constitute a forbidden form of cooking even by virtue of rabbinic edict. The Sages forbade only cooking by means of a medium heated by the sun's rays, *eg.* water on cloth; they did not forbid cooking in the sun's rays directly. The underlying rationale is that the observer will not be aware that the heat of the water or of the cloth was derived from the sun and may err in assuming that all forms of cooking, other than cooking directly over a fire are permitted on Shabbat. The same observer will readily recognize that the sun is not fire and that, although cooking in the sun is permitted, cooking over a flame is not. Microwaves should certainly be treated more stringently than sun rays and indeed microwaves are far less comparable to fire than sun. Thus although cooking in water that has been heated in a microwave oven may well be included in the rabbinic transgression, cooking directly by means of a

microwaves themselves is entirely analogous to cooking in the heat of the sun.

In sum, Rabbi Bleich holds that preparation of food by means of a microwave is not a violation of the Biblical category of “cooking.” At the same time, Rabbi Bleich will state that the use of a microwave is forbidden because of its use of electricity. He characterizes electricity as fire, “a burning wire that emits electrons” and adds that the electrical element used from browning is another forbidden electrical use.

As we look at the Talmud’s discussion of solar use, we see the caution of the Taanaim in imposing a *d’oraita*. The approach of the sages is to define narrowly the original labors of the *mishkan*, looking to the physical act itself. In assessing the thirty-nine forbidden Shabbat labors, they consistently demand permanence and intention to protect against inadvertent violations. The Ta’naim are uniform in defining the direct use of the sun or the hot baths of Tiberius as excluded from the category of cooking. At the same time, the debate between the Sages and Rabbi Yosi indicates a desire to create safeguards against the violation of a foundational *melakhah*. The motivation is to protect against inadvertence or confusion in what could be a capital offense.

Rashi, according to Rabbi Bleich and Benjamin Silber (*Oz Nidberu* I, no. 34) is only questioning the Talmudic rabbis’ choice of not labeling direct solar as a *d’rabbanan gezerah*. They reject Rabbi Feinstein’s reading of Rashi as focusing on a *toledah d’oraita*. Likewise, holding that the use of a microwave is only a matter *d’rabbanan* has consequences. For instance, if there is the need for hot pads for an ill person and using a microwave is only forbidden *d’rabbanan*, than it would be preferable to heat them with a microwave than with fire. Feinstein’s functional definition, usual and common with the same intended result, and approaching the question as a *toledah d’oraita* ignores firmly established distinctions and imposes unnecessary stringencies.

### **Rabbi Nevins’ holding on warming cooked food in a microwave**

Rabbi Nevins states that he is “convinced” by Rabbi Feinstein’s reading of Rashi as prohibiting any cooking that is as “effective and common” as fire as a Biblical *melakhah*. He would forbid the use of microwaves for “cooking” because “both the intention and the result of cooking are identical, whether the source of the heat is gas or electric.” Nowhere in the Talmud is their mention of effectiveness as part of the definition of “cooking”; nor does Rashi use that concept regarding solar cooking. Although Rabbi Feinstein acknowledges in passing that a microwave is effective, he does not clearly state that as his reason for prohibiting solar, and by extension microwaves. In sum, Rabbi Feinstein and Rabbi Nevins effectively expand the category of what is a *d’oraita* violation of cooking.

Rabbi Nevins stringency against warming in a microwave rests on his claim that cooking with a microwave is a Biblical prohibition. And yet, as we have seen, cooking with a microwave is more like solar cooking than the placement of food on a fire. The test of “common and efficient” ignores the physical process and its link to the Tabernacle, which matters. We should be careful not to expand categories *d’oraita*, for as our early sages taught, there is wisdom in narrowing Biblical categories. At the same time, we there is good reason

to support a rabbinic *gezerah* against using a microwave to cook on Shabbat, because the sought intention of microwaving is to transform with “heat” raw food into cooked food. We seek to preserve Shabbat’s distinctiveness as a day set apart from creative labor. Yet, as a rabbinic decree against cooking in a microwave, there is no reason to prohibit warming, which has a long-standing tradition as part of *ta’anug*, the joys of Shabbat.

The *Shuklhan Arukh* codifies that solid foods may be warmed under all circumstances (OH 318:15). The CJLS supported a *teshuvah* composed by Rabbi Kassel Abelson in 1981, “Preparing and Serving Food on Shabbat.” The author held that cooked solid foods may be warmed up on Shabbat based on the rabbinic concepts of *ein bishul ahar bishul* (cooked foods cannot be ‘cooked’ again) and *mitztamek vera lo* (the quality of reheated food suffers) [PCJLS, 1986-1990, pp. 229-231]. In correspondence and in public discussion before the CJLS, Rabbi Elliot Dorff raised the concern that Rabbi Nevins’ holding was too broadly constructed. Specifically, Rabbi Dorff stated that using a microwave to heat cooked solid food on Shabbat was permissible.

Rabbi Nevins responded to Rabbi Dorff’s concern in footnote 106, [I] “am concerned that the distinction between liquid and solid foods is untenable, especially since such ovens heat foods unevenly, bringing some parts (especially with fat) to a boiling point (which for liquids is considered the biblically banned activity of *bishul* even if previously boiled) while leaving others relatively cool. In order to avoid error, I think that it is necessary to refrain from using microwave ovens of Shabbat for even warming foods.” In footnote 226, Rabbi Nevins expands, “this restriction applies also to reheating previously cooked foods with an electric heating element or microwave oven on Shabbat since it is impossible to differentiate between ‘warming’ and ‘cooking’...I recognize that some microwave ovens may make more precise warming possible, and that the matter is open to interpretation. Because cooking food is a biblical prohibition and the line between warming and cooking is very fine, I believe that caution is the wisest policy, ספק דאורייתא לחומר.”

I agree with Rabbi Dorff in his written concurrence that challenges Rabbi Nevins’ prohibition of using the microwave for heating. Rabbi Dorff says that as a matter of caution he is only recommending the heating of solid foods. Although there is a continuum between liquids and solids, there is a clear distinction for most foods. Regarding cooking versus warming, he writes,

My own judgment is that anyone who has bought a microwave oven and used it for a few days knows full well how fast it heats food. Moreover, there is a reasonable presumption involved that should reassure us that people will be careful to warm and not to recook their foods – namely, they do not want their meat or fish or kugel to dryout.... In fact, it seems to me that the use of microwave ovens makes it easier to calibrate the difference between cooking and warming than the blech did for our ancestors. Certainly one may use a warming tray on Shabbat as Rabbi Nevins suggests, but, in my judgment, one may also use a microwave for warming food that is at least edible (*ma’akhal ben d’rosayi*) by sunset on Friday.

Shabbat entails certain restrictions, but I too trust that committed Conservative Jews can differentiate between cooking (forbidden) and warming (permitted). A close reading of the sources shows that the use of a microwave oven for cooking is not a violation of a Biblical decree, but instead a Rabbinic measure to preserve the spirit of the day. Being stricter with our constituents to protect them from possibilities of violation, instead of probabilities, is overreaching and unnecessarily constricting. We should trust the *shomrei Shabbat* to make thoughtful distinctions that allow them to use these resources to enhance the permitted joy of Shabbat.

### ***Koteiv*- “Writing”**

The category of “writing” is relevant for the next two topics: using e-readers and conversing with an electronic device. Whether “electronic writing” is the same as the Biblical prohibition as presented in the Mishnah impacts on potential stringencies. In defining *koteiv*, writing, Rabbi Nevins states, “what matters is not the process, but the purpose and the result. However, we would clarify that the process does matter somewhat- writing to digital memory can be considered ‘*toledat koteiv*,’ a derivative form of writing rather than the original form or *av*. As such it remains biblically prohibited on Shabbat, but other concerns about writing and erasing divine names on digital displays and memory media are not involved.” As with the definition of cooking, Rabbi Nevins uses a broad, functional test of purpose and result.

### **What constitutes the forbidden labor of writing?**

The rabbis of the Mishnah establish an at least two-letter definition of writing (Shabbat, 7:2 and 12:3). Rabbi Yosi explains that the prohibition of writing is linked to the marking of the *Mishkan*’s planks, so that they would know which planks went together (12:3). Regarding the intentionality of “writing,” if a person sought to write the letter ה (*het*) and instead wrote two letters of ז (*zayin*), it does not count as “writing” (12:5). Or, if a person wrote on two separate occasions of forgetfulness, the sages hold that such a person is exempt (12:6). The permanent nature of the dye or ink matters, too: “if anyone wrote with liquids, or fruit-juice, or in road dust, or in writer’s sand, or with anything that does not last, he is exempt” (12:5). This sentence continues, “But if with the back of the hand, or with his foot, or with his mouth, or with his elbow... he is exempt.” Here too the context suggests that if a person writes in such a way that is inefficient or so removed from the normal way of writing that we do not impugn intentionality. The Talmud (104b) states that a person only violates the *melachah*, the Biblical act of writing, if it is permanent, both in terms of the ink and the surface. “Permanent” goes undefined in the text. Rashi comments that it means [it lasts] “a long time” (see Shabbat 102b; 111b, s.v. *v’eilu*). Maimonides will suggest that the criteria for non-permanent is not lasting until the end of Shabbat (*Hilchot Shabbat* 9:13).

Close to a thousand years after the composition of the Mishnah, Maimonides further clarifies the rules that define writing (*Hilchot Shabbat* 11:9-17). He emphasizes that it is only an act of writing when done with a person’s dominant hand, unless they are ambidextrous (11:14; based on Shabbat 103a). He also states that writing must take place on an object possessing qualities of permanence, such as leather, parchment, paper, or wood (11:16). He immediately continues with the language of the Mishnah ruling out writing with liquids or

fruit juice as impermanent (11:16). Yet, with time the rules will become more restrictive through repeated rabbinic enactments.

The notion that it is rabbinically forbidden to write in sand emerged only after Rambam. The first recording of such a prohibition is in the 13<sup>th</sup> century, when Rabbi Yitzhak ben Moshe (Vienna, 1200-1270) forbade writing on Shabbat with fruit juice or dust that accumulates on a surface [*Ohr Zarua*, no. 76]. Rabbi Joseph Karo in the 16<sup>th</sup> century codified the *Ohr Zarua* admonishment, “be careful of writing with one’s finger in liquids on the table or in the dust” [*Orach Chaim* 340:4]. Rabbi Karo uses the words *yesh l’hizaher*, be careful or more precisely, “there is reason to be careful,” suggestive of a rabbinic safeguard, rather than the more stringent *toledah* of a Biblical decree. Immediately in the *Shulchan Aruch*, the Remah (Rabbi Moshe Iserles, Poland 1525-1572) comments, “but it is permitted to indicate letters in the air [citing *Terumat HaDeshen* 73]. By Torah law, there needs to be an intended, permanent physical change to constitute writing even with impermanent materials.

Rabbinic decrees will increasingly treat the temporary as if permanent and expand the parameters of intention. The Hafetz Hayim [Rabbi Yisrael Meir Poupko, Lithuania, 1838-1933] forbade Shabbat writing on the condensation on windows. He writes that even if neither the writing nor the background will last, the writing is rabbinically prohibited [Mishnah Berura 340:22]. In a related vein, the Hafetz Hayim will prohibit cutting any letters on the icing of a cake on Shabbat as an act of erasing, *mohek*, the flip side of writing [Mishnah Berura 340:15]. He is considered lenient compared to the Chazon Ish [Rabbi Avrohom Yeshaya Karelitz, Belarusia, 1878-1953], who even forbade eating letters baked into a cookie on Shabbat. All of these stringencies against non-permanent writing and erasing are rabbinic safeguards. It is a long way from the Mishnah’s more nuanced definitions of the *melachah* of writing, looking at the actual physical actions that were similar to the marking of the Tabernacle planks.

### **Is electronic writing permanent as defined by the Mishnah?**

Electronic writing, as on a computer or e-reader, is essentially the movement of electrons that cause small dots of light to flicker. The computer hardware issues a command to light specific pixels. This command is repeated many times a second until interrupted by some new condition. When we see characters on the screen, we are seeing changes in molecules, observed as the glow of phosphorous or liquid crystals that are continually refreshed. When we scroll down a page, the writing vanishes. The writing on an electronic screen is temporary. The movement of electrons to fashion characters on a screen is similar to the movement of electrons to create light, which we have permitted. Even if we do not scroll down, a computer or e-reader goes into sleep mode if the device is not actively used and the writing vanishes. It is even less permanent than writing with fruit juice. There is no permanence as defined in the Mishnah and the early Codes to constitute a Biblical violation of writing.

Prominent twentieth-century scholars who have examined electronic writing have usually held that it is not a Biblical violation. Rabbi Nachum Rabinovich [born 1928, head of Yeshivat Birkat Moshe in Maale Adumim] has written that writing on a computer screen is

not a prohibited form of writing, because neither the letters nor the background will last once the computer is turned off. Moreover, writing by typing is like writing with you left hand, a non-normal way of writing [*Melumdei Milchamah*, 1993, nos. 57, 63]. Rabbi Ovadia Yosef [*Orach Chaim* 8:48] and Rabbi Auerbach [cited in *Nishmat Avraham*, *Orach Chaim* 340:4] each consider writing on a computer screen not to be significant enough to be considered actual writing and is at most only rabbinically prohibited.

The Zomet Institute, an Israeli organization that looks at how modern technology can be used by observant Jews, examined the technical aspects of writing on a computer during Shabbat for essential security and medical needs and concluded as follows:

Temporary writing is prohibited by a rabbinical decree only. It is very doubtful if “writing” on a screen, which does not make use of physical materials such as ink, is in fact included in the Torah prohibition for writing. When a screen saver is used the information is retained in the computer, but a lenient approach is possible in view of the doubts about the definition of writing.” As for data storage, the summary states: “If a ‘save’ is essential, it might be considered as ‘building’ or ‘putting on the final touch (*makeh bapatish*) from a rabbinical point of view- and such actions are forbidden on Shabbat.” The Institute recommends using a computer over a “Shabbat pen” [which uses a temporary ink] for medical purposes in that “writing on a computer is not halachically defined as writing, but rather involves electronic or electromagnetic records. The writing of a Shabbat pen is real writing, except that from a halakhic point of view it is “defective” in that it is temporary [www.zomet.org.il/ENG/?CategoryID=253&ArticleID=317].

In Rabbi Nevins’ *teshuvah*, the analysis approaches the act of writing on the screen as intrinsically linked to memory and holds that keyboarding is a *d’oraita* violation as a *toledah* of the *av* of writing. Rabbi Nevins writes as follows:

Some rabbis have argued that recording to electronic media may be differentiated from pen and ink writing on the basis of another distinction offered by the Mishnah: *יד כלאחר*, like [writing] with the back of the hand. For example, the Mishnah states that if a person writes with his or her non-dominant hand, or uses their foot or even neck to scratch two letters, that person is not liable for the melakhah of writing. The theory seems to relate to the idea of *מלאכת* intentional labor.” If one’s intention was really to perform labor, then s/he “*מהשבת*” would have done it in the most efficient and effective way possible. Writing with the back of the hand, foot or neck may allow the creation of a legible mark, but it is not the intentional labor prohibited by the Mishnah. Therefore a person who writes *יד כלאחר* is not biblically liable for the labor or “writing.”

Obviously, writing with a keyboard—whether physical or virtual—or any other input device is not the “normal” way of writing known to our ancestors.

Yet the principle of *יד כלאחר יד* refers to an awkward and imprecise form of labor. No one today would consider typing on a keyboard or touch screen to be a form of writing which is more awkward or imprecise than writing with pen and paper. On the contrary, using digital recording devices is extremely precise and efficient. Which is likely to be more accurate and legible for a later reader, a typed transcript, or scrawled notes? Which will be more realistic, a digital photograph of a bird, or a pen and ink drawing? The various forms of recording data to digital memory are the modern equivalent of writing with quill and parchment, and are often a more durable and effective medium for recording information.

Rabbi Nevins offers no rabbinical sources to buttress his claim that the underlying principle is efficiency, and since writing with a keyboard is efficient it is a violation of the Biblical category. Once again, the rabbis of the Mishnah also looked to physical acts in themselves, without claiming underlying reasons, to define forbidden and permitted acts. There is value in looking for underlying reasons, but making one reason into a rule may lead to a fallacy, because there can be more than one underlying rationale. What is clear is that writing as a Biblical prohibition in the Mishnah is linked to the manual acts of writing with both intentionality and the effect of permanence.

#### **Differing methodological approaches within the Conservative Movement**

At the same time, there is an ongoing debate within our movement as to the nature of recording as an act of “writing.” In the 1989 CJLS responsa on recording video to magnetic tape on Shabbat, Rabbi Arnold Goodman, with nine votes in favor, held that a Shabbat service could be audio or videotaped [PCJLS, 1986-1990, pp. 299-304]. Rabbi Goodman adopts Rabbi Jacob Agus’ claim that, “tape-recording is not *מלאכה*. Even if it (tape-recording) were regarded as a form of *כתיבה* (writing), it is not performed in the usual way (כדרך עשיתו).” Rabbi Goodman adds, “Yet, utilizing the “reasonable person” definition, *כתיבה* or writing is process of placing words or images on a surface by manipulating instruments with one’s hands and fingers....The increasing number of Conservative colleagues who accept taping on Shabbat seem to point to a trend in the Conservative Movement to adopt a “reasonable person’s” definition of *כתיבה*” (p.302). Rabbi Goodman asked that videotaping be left to the discretion of the congregational rabbi. I am impressed with his willingness to suggest that it is relevant to see what colleagues are actually doing and agree with him that videotaping is so different than writing by hand that it is not a Torah-defined act of writing.

And yet, I agree with Rabbis Dorff and Tucker in their concurrence in which they equate video-taping with writing, “because in the case of both, one who writes and one who tapes, the intent and the effect of the acts are the same- namely, the creation of an enduring record which can later be referred to” [PCJLS, 1986-1990, pp. 305-308, p.305]. It is important for purposes of this discussion to note that Rabbis Dorff and Tucker do not state whether their prohibition of video-taping is a rabbinic decree or Toraitic mandate.

On the question of videotaping on Shabbat discussed in 1982 by the CJLS, there was a split on the question of the nature of *ketivah*. Rabbi David Lincoln wrote on a formalistic basis, “A considerable knowledge of physics is required to fully understand the subject. In simple terms, videotaping is basically the same process as audio taping. A



magnetic field is set up. The videotape is merely assimilating more information on the tape than an audio tape. I do not feel, therefore, that either *ketivah* or *reshima* are involved in the process” (PJLS 1980-1985, pp.239-241, 240). Rabbi Mayer Rabinowitz countered with a functional analysis, saying,

The categorization of *hakotev* as a *melakhah* has as its purpose to prohibit the making of a permanent record of something on Shabbat. In rabbinic times, it was defined as writing in a permanent way on something that was permanent, i.e. *davar hamitkayyem*. Therefore, for example, using water or fruit juice instead of ink, and using vegetable leaves instead of parchment would not be considered a violation of *hakotev*. It is clear that the prohibition was to prevent making a permanent record. It was described by the rabbis in terms of methods available to them at the time, namely writing with ink or *hakikah* (engraving). Today, in our technological age, we must define *ketivah* in terms of methods available to us to make permanent records. Without a doubt, videotaping is a method of recording something and making a permanent record of it, and therefore is definitely a form of *ketivah*. It may not fit the description given by the rabbis, but it definitely has the same goal in mind” (PJLS 1980-1985, pp.243-244).

It is worth noting that Rabbi Rabinowitz as a matter of dictum applies his analysis to microwaves too: “Another example of redefining a *melakhah* would be the prohibition of using a microwave oven on Shabbat for the purpose of cooking. *Bishul* would be defined as changing the status of food from a state in which it is not eaten (raw) to an edible state (cooked). The presence of fire is irrelevant” (p.244). My problem with Rabbi Rabinowitz’s analysis of the microwave is that fire does matter for the rabbis of the Talmud, not because of efficiency, but in their terms because of the nature of the original, Biblical prohibition. Hence, solar cooking is not technically “cooking.” Likewise, regarding the definition of *ketivah* for matters of *d’oraita*, process and not only outcome matters.

Another example of countervailing approaches in defining an *issur d’oraita* is revealed in the 1984 *teshuvah* by Rabbis Mayer Rabinowitz and Dvora Weisberg on “Tape Recording and Photography on Shabbat (PJLS 1980-1985, pp. 247-250). The authors write, “The fact that the data on the tape may appear to us as a series of unrecognizable scratches, or may not be visible to the eye at all, does not deny the presence of a permanent record. This creation of a permanent record places tape recording in the category of *ketivah*, an *av melakhah* forbidden on Shabbat” (p.248). Colleagues were split seven to seven on this holding and among the no votes was Rabbi Gordon Tucker, who ostensibly opposed the explicit definition of taping as an *issur d’oraita*.

Definitions of whether an act is prohibited as a rabbinic or Toraitic decree matters in terms of severity of a violation and the need for protective measures. Whether an act is called a *toledah*, begs the question if it is a Torah or rabbinic prohibition. Rabbi Roth has shown that the definitions of *avot* and *toladot* can and have changed, depending upon the shifting characterizations of the thirty-nine *melakhah* (Joel Roth, “*Melakhah U’Shevut*,” *Conservative Judaism* xxxv: Spring 1982), pp.4-34). Whether an action on Shabbat is a violation of a *d’oraita* or *d’rabbanan* primarily comes down to a functional or formalistic analysis in defining a *d’oraita*. There is a long-standing split in our movement on this very question of approach. As the foundation of this paper is that formalistic details matters in

defining a *d'oraita*, let us look more closely at the nature of electronic memory.

### **The nature of electronic memory**

Permanence is required, including the surface, in order to constitute the Mishnah's definition of writing. Rabbi Avram Reisner in his CJLS *teshuvah* "On the Exodus (and Genesis) of *Shemot*" addresses whether writing the sacred name on a computer is the same as on paper, which would entail being placed in a *genizah* (repository) once in need of disposal. He will conclude that writing on a computer lacks permanence and therefore it is possible to erase God's name from the computer screen. Rabbi Reisner's analysis focuses on the nature of halakhic "writing" as part of the question of the writing of the Divine name, stating:

A book which had letters or words written on the edge of its pages- there are those who prohibit opening or closing it on Shabbat, for by doing so, opening it causes erasing the letters and closing it is like writing. But the opinion of R'ma in a responsum is lenient here, and that is the position of many *Aharonim* [=later sages]. Their reasoning is that since the [book] is made to be opened and closed constantly, there is no erasing and writing involved. As there is no writing, there can be no divine names. There is pragmatism about this result. Were God's name on screen an unerasable entity, then if a divine name once found its way once onto a computer screen, that computer would need to be buried- plugged in. Were disk files with God's name uneraseable, and given as my son points out, that the computer will choose to rearrange the storage of bits of information at will, it would be necessary to assure that no file with God's name was ever renamed and that memory capacity was never taxed. These are clearly absurd results [CJLS on December 5, 2003, 14-3-4; pp.13-14.]

Rabbi Reisner's *teshuvah*, passed by overwhelming support of the CJLS in 2003, held that electronic erasures are not forbidden. He was right to speak in terms of pragmatism. In terms of computer writing, not only is the screen temporary, but so is the memory in that it is electronic and dynamic. Electronic writing is a whole new category of recording and we must be cautious because of unintended consequences in equating its operation to the halakhic restrictions entailed by the Torah prohibition of "writing," lest it lead to "absurd results."

Rabbi Nevins in acknowledging this past decision of the CJLS makes a novel distinction between the "exact equivalent of the *av* of 'writing', which he asserts is needed for the Divine name, and the functional equivalent of writing with pen and ink, which he characterizes as a derivative form of the Torah prohibition of "writing" (p.32-33). It is not a distinction that Rabbi Reisner makes in his paper, nor any other *posek* that I have found. Admittedly, there is a greater intentionality required for a writing of the Divine name, but the analysis of the halakhic category of "writing" remains the same. Rabbi Nevins' elevates electronic writing on Shabbat from a forbidden act by rabbinic decree to the status of a violation of the Torah itself.

Now, let us look more closely at electronic memory. Words like "volatile" and "nonvolatile memory" fail to answer the question as to whether the electronic recording of information is permanent for purposes of halakhic categories. Here too, we gain from Rabbi

Reisner's analysis, "Rabbi Auerbach was concerned in that comment about Shabbat infractions [whether storing information onto a diskette constitutes *boneh*], but he did not for a moment consider that the recording on the disk might be considered writing. That is fairly clear, for in the digitized form in which it is stored there is really no writing, no formation of letters per se. A single letter is scattered throughout the disk as a series of positive and negative charges that the computer reconstitutes as code for the letter in question."

Electronic writing is not halakhically the equivalent of writing with pen and paper. It is akin to writing in sand. With electronic memory there is a pulsating of electrons, it is more like the way the mind records than how we print on paper. There is an evolving technology of reading brain waves. If we could discern thoughts technologically [and science is not too far away from doing so], would that mean that it was forbidden to process new ideas in one's mind. Here too an absurd result to make the point that recording with electrons is a whole new area of human know-how and we must be careful to equate it with pen and pad. And yet, if the intention is to make a permanent record, than we are wise as a matter of rabbinic decree to equate keyboarding on a computer with writing and to forbid it on Shabbat. It goes against the spirit of the day, which is to refrain from work.

Rabbi Nevins acknowledges that reading from an electronic screen is only forbidden as a matter *d'rabbanan*, which allows him to permit the use of an e-reader to aid a person with impaired eye-sight. Rabbi Nevins' restriction for a healthy person is because he holds that writing on a computer screen is a violation of a Biblical decree. It is this holding with which I differ. When holding that writing electronically is only a rabbinic prohibition, there is no reason to build fences around the law.

To discern what is forbidden and permitted rabbinically with electronic devices on Shabbat, it is wise to make analogies to what we already do. Reading material on a computer screen that is drawn from the hard drive is not writing. It is the functional equivalent of opening a book. In contrast, actively putting information into the hard-drive by pressing the save command, whether it is a word processing document, a photograph, or any other creative type of file where the user is deliberately creating a recording, which would be a rabbinic violation of Shabbat. It is forbidden to write and send a document or an e-mail, which creates a saved document in one's own "sent" folder and in the recipient's inbox. And yet we manually place bookmarks in our printed books. When e-readers move electrons to designate where we stopped reading, it is the functional equivalent of the bookmark. The functional approach to what is rabbinically forbidden works in two ways, not only to forbid, but also to permit. Now, let us look at two permitted activities, reading and conversing, and how those are impacted by the new technology.

### **Reading on electronic devices**

Reading is among the joys of Shabbat. The resources for reading have changed slowly over time, but are now morphing quickly. We, Jews, are the last group to actively commission hand-written scrolls on parchment, exhibiting an ancient technology of writing with a long history. Scrolls replaced writing on shards or chiseling on hard objects- such as those famous two stone tablets. The printing press in the 15<sup>th</sup> century was a revolution that

enhanced the availability, accuracy, and cost of the written word. Electronic reading devices are now swiftly replacing printed books.

Amazon for the first time in 2011 sold more kindle books than hardbacks or paperbacks and that trend is accelerating. Indeed, Amazon's number one sales item is the Kindle-Fire reader and that is only one of the available e-readers on the market. Electronic books are cheaper, lighter, and easier to see than most printed books. They are immediately downloaded and can be shared. E-readers allow a person to read without a nightlight or the sound of turning pages. Entire libraries can be stored and accessed conveniently. Schools are increasingly choosing electronic readers due to lower costs, easier updating, and as environmentally more sustainable. In a few years, those stooped shoulders of young people caused by carrying heavy backpacks will hopefully become a vestige of the past. It is precisely because e-readers are rapidly becoming so common and when familiar to a user such a source of joy, that how we respond as a movement to the question of e-readers characterizes our philosophy and for many, our relevancy.

Rabbi Nevins states that “the use of e-readers as currently configured is not permitted on Shabbat” (p.37) He cites a variety of halakhic concerns (pp. 33-34, 47, 49):

1. Downloading new content or the making of notations would constitute a violation of a *toledat koteiv*, a subgroup of the Biblical prohibition of writing.
2. There is the temptation to make purchases.
3. Most reading devices recall where the reader has left off and makes other recording of user behavior, which are arguably *koteiv*.
4. Popular reading devices today, such as the Amazon-Fire and the iPad, are full media players that seamlessly integrate web browsing, making it “difficult to use without downloading new content from web pages, which is at least rabbinically forbidden, and possibly Biblically.
5. E-ink, used in a select minority of e-readers, is a stable form of writing and would therefore violate the Biblical prohibition of writing.

The Nevins' *teshuvah* acknowledges that the content on most e-reader screens is transient in that the screens automatically shut off after a few minutes of inactivity and therefore the material on the screen is not a violation of the Biblical prohibition of writing, which requires a quality of permanence. Nonetheless, Nevins states that the temporary screen views would be banned as a *toldat koteiv d'rabbanan*, a rabbinically ordained derivative form of writing, such as the rabbinic prohibition of writing in sand (p.34). When it is a rabbinically legislated prohibition it is exempt from Biblical liability and can be overcome by a countervailing value. In Hebrew this rabbinic category of prohibition is termed, *issur aval patur*- forbidden, but exempt. Rabbi Nevins states that if an e-reader's network functions were disabled- thus eliminating the risk of downloads, notations, or purchases- than “for the sake of a visually disabled person who had no other way to read, we would override the rabbinical level prohibitions in deference to *kavod habriyot*, the demands of human dignity” (p.48).

Rabbi Nevins postulates the possibility of a specially designed “Shabbat mode” e-reader in the future. And then adds that for now, “it is facile to just say that people can assert self-control since most people are not aware of how their electronics work and will never be able to see the line between that which is forbidden and that which is permitted” (correspondence).

The first challenge to Rabbi Nevins’ position is the stringency of his holding. Even when an e-reader’s functions are limited to reading, Rabbi Nevins would only permit usage for the rare case of a disabled person who could not read in any other fashion. I trust our *shomrei Shabbat* to overcome temptations- such as making notations, purchases, and even downloads- and would permit the use of reading devices, such as the iPad and Fire, even when there is access to forbidden functions, such as making purchases or actively taking notes. There is no difference in practice between reading on an e-reader than a printed book. Reading text is not the same as creating it. It is not a forbidden derivative of a rabbinic decree to read electronically. The mechanism of reading electronically is essentially the turning on and off of lights, which we permit.<sup>4</sup>

Rabbi Nevins’ states that e-ink has a quality of permanence and would therefore be forbidden. It is true that e-ink is electronically more stable, but it is not leaving permanent ink stains. “E-ink” mimics the appearance of ordinary ink, but is electronic and dynamic, rather than fixed.<sup>5</sup> E-readers return a reader to the page where last used, but this is no different than putting in a bookmark electronically. That people can write on an e-reader is again no different than writing in a book. Rabbi Nevins states that writing in a book takes the extra effort of picking up a writing instrument, which is different than having the resources of writing on the same device. The minimal effort of picking up a pen makes little difference in making the choice whether to write. Automatic downloads onto a reader would not count as there is no intentionality and as we will see *pesik reisha*, constructive intent, would not apply.

Rabbi Nevins raises the concern about downloading. Here, too, since the use of electronic information is not identical to the Biblical prohibition of writing, the functional analysis of what would be rabbinically forbidden should begin with a parallel to how we use our libraries on Shabbat. Clearly making new purchases is forbidden. Downloading new books, even for free, also raises the question of acquisition. The fact that the World Wide Web server and a computer’s browser coordinate to place a “cookie” (a small computer file) on your machine is a side effect, more like the hotel tracking entry into your room with your key-card. If the intention is to save the information to the hard drive, then it should be forbidden as a *d’rabban* violation of recording.

In my own life, I do not touch my computer on Shabbat (or my iPhone) as the tools of my workday week. At the same time, my iPad is a source of recreation and on Shabbat, there is joy for me in reading a book that is already downloaded. I refrain from checking my mail on Shabbat, whether e-mail or snail-mail. I of course do not make purchases or take notes. Although the iPad automatically displays information, such as the current time, the letters are always changing and it is not my intention to record. Whether or not other functions are turned off, the act of reading itself on an electronic reader on Shabbat does not violate any prohibitions. We do have a need to create a *shabbasdick* environment on our sacred day of rest and doing so entails separating from our work-like activities.

## Communicating with electronic devices.

The use of phones on Shabbat raises many of the same concerns as e-readers, plus the added *halakhic* category of *pesik reisha*, unintended, but inevitable results. Conversing with family and friends is surely one of the pleasures of Shabbat. As electricity has contributed to the comforts of Shabbat, so electronic devices enhance our ability to communicate. On a formalistic level there is nothing forbidden in talking on a telephone. Speaking loudly and producing sound waves is not forbidden on Shabbat. We could speak across a string between two cans and not violate Shabbat. The telephone does just that by transforming sound waves electronically into electrical waves and then back into sound. The problem with telephones in the Orthodox world is precisely the use of electricity, especially the opening and closing of circuits. The Zomet Institute has recently devised for medical and security personnel a “Shabbat phone” in which a current continuously runs through it. Our holding on electricity obviates this particular concern. We do leave our homes to see others. *Shomer Shabbat* Jews use an *eiruv* to technically expand the boundaries of their home, enabling greater distances for permitted visits from their home. To better meet the needs of Jews, our ancestors used formalistic definitions to loosen Toraitic constraints.

The major technical impediment that Rabbi Nevins cites for the use of a phone is that cellular calls lead to forbidden writing: “These devices which are growing more powerful and prevalent by the day, automatically record activity such as the time, number, duration and even location of each call on the phone and also on the service provider’s register for billing purposes. While such recording may not be the primary intention of a person who initiates or accepts a call, this recording is *pesik reisha*, an unintended but unavoidable consequence” (p.35). For *pesik reisha* to apply the forbidden act must constitute a *d’oraita* violation. As applied to conversing on an electronic device, even if the goal in making a call is to converse, is tapping a phone number a Biblically defined act of writing?

### *Pesik reisha*

Throughout the Talmud, Rabbi Shimon, the Israel sage of first century, Israel, held that liability for the violation of a *melachah* required intentionality. His view would become the majority holding. If a person engaged in a permitted activity that led to a secondary forbidden labor, Rabbi Shimon says *devar she’in meitkaven mutar*, an unintentional form of labor is permitted. In contrast, Rabbi Yehudah held liability regardless of intent for an indirect violation. Examples of permitted acts due to lack of intentionality are as follows: Acceptance of a *nazir* combing his hair with the knowledge that he may unintentionally pull out some hair (Shabbat 50b); allowing a garment seller to wear *sha’atnez* clothing in order to better market and publicize his merchandise, knowing that he may benefit from the warmth of the garment (See Kilayim 9:5); refraining from condemning a person who donates wine as a *korban nissukh* by pouring drops of wine on the altar, where the flame must remain lit, even though doing so will unintentionally douse the fire (Zevachim 91b).

Rava and Abaye, third-to-fourth century, Babylonian sages assert an exception to Rabbi Yehudah’s principle. Eleven times in the Babylonian Talmud [Sukkah 33b; Shabbat 75a, 103a, 111b, 117a, 120b, 133a, 143a; Ketubot 6a, b; Bechorot 25a; Beitzah 36a] they

state that even Rabbi Shimon would have held that a person is responsible for a particular inevitable, forbidden consequence: “*pesik reisha v’lo yamut*”- “cut off his head and he will not die?” The phrase must have been quite commonly understood during the days of *hazal*, the rabbinic sages, because it is never explained in the Talmud. Rambam in the 12<sup>th</sup> century clarifies the phrase by describing a person who wants his child to play with the head of a chicken and cuts the head off the live chicken on Shabbat. “Even though he is not thinking that he will kill the chicken, it is impossible not to cut off the head of the chicken and it will remain alive rather than die” [*Mishneh Torah*, “Laws of Shabbat,” 5:1]. It is obvious that guillotining a chicken entails death, so obvious that it is viewed as constructive intent.

Most of the time the assertion of *pesik reisha* in the Talmud is found unpersuasive, often due to the possibility that the outcome was not inevitable. Even when the outcome is inevitable, the concept is not necessarily accepted due to a question of benefit, and therefore intent. The case on Shabbat 75a, for instance, smacks of *pesik reisha*. A person squeezes “blood” from a snail, the kind of snail (*hilazon*) whose blood becomes the blue dye used for the fringes of a *talit*. The snail will obviously die without its blood. Is the squeezer liable for the forbidden act of killing on Shabbat? Abaye and Rava state “*pesik reisha v’lo yamut*,” claiming that even Rabbi Shimon would concede that if a result is inevitable the actor is liable. And yet, the Talmud goes on to say that in the case of draining the blood of the snail, Rabbi Shimon does not concede, because the longer the snail remains alive the more he [the squeezer] is pleased due to a clearer quality of dye. Direct intent matters greatly. Rashi commenting on this case clarifies: *pesik reisha v’lo neha lai*, the head is cut off and it is not beneficial for him. When the actor is unhappy with the inevitable results, he or she is not culpable, because an unwanted outcome raises doubt of original intent.

In regard to a lack of sought benefit, Rabbi Nevins holds that it is permitted to use a hotel key card on Shabbat even when in doing so the entry time is recorded (see p.57). The *teshuvah* allows such a use since the information goes only to the hotel and is not observed by the user who therefore obtains no benefit. Know that in theory, such as in a criminal case [think Dominique Strauss Kahn], the recorded times may prove useful to the user of a key. And yet, “beneficial” means not any conceivable benefit, but for constructive intent entails a likely sought after benefit. Rabbi Nevins was careful in his writing to state that it is only “possible” that the key is creating a record used by the hotel to record the time. Frankly, the majority of modern hotels do make such recordings, but he is right to limit the use of *pesik reisha*, because it is a narrowly constructed category. Impugning intent must be done cautiously.

In applying *pesik reisha* to the use of a digital call, the question is does the user gain an intended benefit from the recording of the phone number, time and place? The information is primarily helpful to the phone company to tally phone charges and for many users is even an invasion of privacy. Users have no choice about having the information recorded. It is not necessarily a sought benefit and hence there is a reasonable question of constructive intention, which is all it takes to make *pesik reisha* inapplicable. In addition, the use of the *pesik reisha* hinges on Rabbi Nevins’ claim that electronic writing is an *issur d’oraita*, a forbidden Biblical act. Rabbi Nevins defines electronic writing as a Biblical prohibition, theoretically a capital offense. As we have shown, raising electronic writing to the level of *d’oraita* goes against both the primary sources and the vast sweep of precedent.

We have reason to avoid severe decrees on our constituents and should look to the primary sources to guide us away from interpretations that serve to constrict the joys of Shabbat.

Calling a parent on Shabbat who lives across the country is for many the long sought opportunity for catching up. Shabbat is chosen due to increased leisure and because the spirit of the day is to connect with loved ones. To see one's grandchildren via skype is a great joy. Today we are much more spread out geographically than in former times and have less leisure to socialize. Shabbat is set aside to invite connection with family and friends.

In using technology, there are risks that doing so might lead to forbidden acts, such as making purchases or downloading permanent recordings. We are in agreement with Rabbi Nevins' description of the spirit of Shabbat as one of repose and spiritual uplift. Our objection is expanding definitions of *d'oraita* stringency to new situations, when not required by the primary texts. The claim that our congregants cannot make distinctions of permitted and forbidden uses denies respect for their knowledge and self-control. Recognizing the maturity of our constituents and offering choices is a positive mark of modernity. If Shabbat is a "palace in time," as Rabbi Abraham Joshua Heschel so beautifully described it, we metaphorically seek to maintain the architecture of the day, while honoring choices of interior decorating that are more subjective.

### **Foundational concerns regarding methodology and philosophy**

The advantage of the Nevins' *teshuvah* is clarity: the use of electronic devices is forbidden on Shabbat (with the narrow exception for the visually handicapped of using e-readers with all other functions turned off). The price is expanding what is defined as Biblically prohibited. The entire analysis concerning cooking and writing rests on defining *av melakhot* and their derivatives solely by a test of "functionality." Such an approach deviates from the formalistic analysis of how the Talmud defined cooking or writing. Although the rabbis of the Talmud did not define solar heating as cooking, even when effective, cooking is now any process that is common in transforming raw food to an edible state. Writing in the Talmud requires a physical act of two letters with an intention of permanence. By Rabbi Nevins' definition, any efficient act that creates a record for recall is a Biblical violation. These expanded categories redraw in broad strokes the offenses that in theory warranted capital punishment.

Extinguishing and igniting fire are counted among the thirty-nine forbidden labors, too. When the Torah commands, Exodus 25:3, "You shall kindle no fire though out your settlements on the sabbath day," the *Etz Hayim* commentary in the grey box begins as follows: "kindle no fire"- Lighting, extinguishing, or transferring a fire on Shabbat is forbidden under Jewish law." Rabbi Nevins provides a formalistic definition of fire as requiring combustion, marked by flame and residue. He cites precedents for how heating metal falls short of this definition and he then emphasizes that in the use of electricity we are simply shuttling electrons from one place to another. Based on that formalistic analysis, electricity is not fire. And yet, if we ask what are the goals of fire, what is it that the Torah reasonably sought to prohibit actively doing on Shabbat, it is akin to the definition of our *Etz Hayim*. By a functional analysis electricity is fire, as Rabbi Klein noted at the outset of this paper.



Much of the Nevins' analysis also hinges on distrust of our constituents to make distinctions or to assert self-control. This is the basis of the teshuvah's prohibitions regarding heating in a microwave or using an electronic reader due to the possibilities of making purchases or writing. Such protective measures only have a context when seeking to protect against a violation of a Biblical command. Upon analysis the use of a microwave or e-reader does not pose such a threat. It is at most, a violation of a rabbinic decree. As a tendency *Rishonim* and *Ahronim*, the medieval writers and latter rabbis, displayed a paternalistic attitude, insisting on expanding protections against Shabbat violations. Rabbinic safeguards of *sh'vut* (sit and desist) or *muktzeh* (forbidden to touch) led to ever increasing restrictions. Do we, members of the Conservative Movement of Judaism, have a need to go down the path of increasing protections that are not strictly required?

In the writings of the Talmud there was largely a tendency to assume that actions were not a violation of Biblical command unless proven otherwise. Using a narrow, formalistic reading of the Torah sources, the rabbis held that capital punishment for a rebellious child or destroying a town due to idolatry was so fraught with practical requirements that it was all but impossible to implement (Sanhedrin 71a); Hillel instituted the *prosbol* as a circumvention around the commercial restraints of forgiveness of debts; and the *eiruv* was introduced so that people could expand the definition of "home" to allow for greater freedom and mobility on Shabbat.

There is reason to examine the primary sources for guidance in how to fashion a vibrant Judaism in a changing world. A reluctance to rely on Codes for direction, but to discern the primary texts anew was already expressed by the Maharal (Rabbi Judah Loew, Prague, 1525-1609), "It is more fitting, and more correct that a person determines the law for himself directly on the basis of the Talmud...[than] from a later prepared code without knowing the reasons which are the grounds of the decision" (*Netivot Olam, Netziv ha-Torah*, end of ch.15).

Rabbi Dorff, the current chair of the Committee and Jewish Law and Standards, goes even further, encouraging us to see ourselves as empowered to process *halakhah* in the same way as the sages of the Talmud. In "Towards a Legal Theory for the Conservative Movement," Rabbi Elliot Dorff, writes:

I think that we of the Conservative movement must frankly state that we do not see ourselves bound by the specific decisions of the Rabbis of any generation, because we do not see ourselves as immensely inferior to them. Quite the contrary, we feel not only confident enough to make fresh starts in Jewish Law, but *required* to do so, given the lag in forthright Jewish legislation during these many centuries of Rabbinic diffidence. Moreover, we feel justified in taking on these tasks because that is precisely the way in which the Torah and the Talmud saw our role, even though the *Rishonim* and *Ahronim* did not concur. We should return to the method of the Talmud, and not use the methods of the *Rishonim* and *Ahronim* [*Conservative Judaism* 27:3 (Spring, 1973), pp. 65-77].

Subsequently in a written debate in *Sh'ma* magazine between Rabbi Dorff and Rabbi Bleich on the issue of triage decisions in medical care ([www.bjpa.org/publications/...](http://www.bjpa.org/publications/)), Rabbi Dorff emphasized that our halakhic tradition directs us to examine principles, taking into account underlying values and practical applications, rather than applying formulaic rules in all or nothing fashion.

In response to the challenges of technology, we as a movement found a way to permit electricity. We did so many years ago, because we saw it as adding comfort and freedom to people's lives. Even though electricity serves many of the same functions as fire, we chose to make a formalistic distinction. In more recent decades the use of those electrons has grown. We now have devices that allow us to read more comfortably, to heat foods more reliably, to communicate with loved ones more effectively. These are acts of *ta'anug*, rejoicing, which are integral to Shabbat. With open eyes and trust, we may look at the possibilities of electronic technology and balance the use of new resources with the needs of maintaining sacred time.

Karaites and the Betai Yisrael of Ethiopia observed Shabbat in the dark. They took literally the Biblical command, "You shall kindle no fire though out your settlements on the Sabbath Day" (Exodus 25:3). When Ethiopian Jews reached Israel they had no knowledge of lighting Shabbat candles. They had separated from the Jewish people before the rise of Rabbinic interpretation. The rabbis chose to interpret the Torah to enhance the comfort and celebration of the seventh day. At the same time, imbedded in Jewish folklore are stories that idealize the complete rest of Shabbat. When Tinnaius Rufus (2<sup>nd</sup> century, Roman governor of Judea), asked Rabbi Akiva how he could prove that the Sabbath was divinely ordained as the day of rest, he replied, "Let the River Sambatyon prove it" (Sanhedrin 65b), because of the following belief: The mythic river Sambatyon was unnavigable on weekdays because it flowed with strong currents carrying along stones with tremendous force, but it rested on the Sabbath (Genesis Rabbah 11:5). And yet, there was and remains a need to define what constitutes the distinctive feel of Shabbat rest in the actual lives of our committed Jews. Ideals are valuable as sources of inspiration and aspiration, but not necessarily as the compass for determining halachic expectations.

In my own congregation, I held a public conversation on the use of electricity and electronic devices during a Shabbat morning after the CJLS vote on the Nevins' *teshuvah*. There were over a hundred and fifty people and no bar mitzvah, which allows us a half hour public conversation. Many of my congregants have strong backgrounds in Jewish and secular learning. No one supported the majority vote banning the use of electronic devices on Shabbat. They spoke about how Judaism has evolved and how the question of what is *shabbasdik* is different than what is halakhically permitted. These are my most Jewishly invested constituents. It made me pause and appreciate that we as a CJLS are writing our teshuvot precisely for these Jews. In addressing them, we need to take into account their current practices and their desire to live authentic Jewish lives.

In uniformly prohibiting for healthy people the use of electronic devices on Shabbat, we potentially overstate the Biblical prohibition. Being overly restrictive as a matter of caution poses a danger, as conveyed in the Garden of Eden account. God forbade Adam to

eat from the fruit from the tree of knowledge lest he die (Genesis 2:16-17). Eve only emerged from Adam's side after God's instruction. When the serpent asks Eve about the command she reports, "and you shall not eat from the tree or even touch it" (Genesis 3:2-3). Rashi identifies Eve's expansion of the prohibition as a source of danger. Picking up on an earlier midrash (Genesis Rabbah 19), Rashi explains that the serpent pushed Eve until she touched the tree and he then said to her, "Just as there is no death in touching it, there is no death in eating it." We are instructed to be cautious with our warnings and not to overreach in describing God's commands. For to overstate dangers is to potentially lose credibility and relevancy.

Shabbat is two-sided: demanding restraint in observance of the day and actively encouraging us to enjoy the day. The Torah's emphasis on Shabbat, the only ritual contained in the Ten Commandments, is marked by two differing verbs: *Shamor*, "Protect the Day of the Sabbath" (Deuteronomy 5:12), and *Zachor*, "Remember the Day of the Sabbath" (Exodus 20:8). Classical commentators interpret *zachor* to mean to enjoy the Sabbath day (See Rashi and Ramban on Exodus 20:8, with the example of saving special foods all week to make Shabbat more special). The feel of Shabbat, its sources of joy, will differ among the *shomrei Shabbat*. Some will see sporting events or listening to music as a source of uplift, many others will not. Our tastes and needs are a product of personal history, temperament, and circumstances. I see no reason to legislate for others how Shabbat is to feel if their actions are not a direct Shabbat violation. I have no desire to call a mother who calls her son on Shabbat a sinner; or a person who eats chicken heated in the microwave a Shabbat violator; or a person who finishes reading a novel on an e-reader as having done anything wrong. Let us encourage Shabbat observance from a place of honoring choice and advising by example how we craft a Shabbat of holiness.

Reading, warming, and conversing add to the joy of Shabbat. As with the use of electricity, electronic devices may enable us to both have greater comfort and knowledge and enhanced connection to loved ones. In sum, on Shabbat it is halachically permissible to read from an electronic device, place a phone or video call to loved ones; or microwave already cooked food.

*P'skei halacha:*

1. It is permitted to warm cooked solids in a microwave on Shabbat.
2. It is permitted to read on Shabbat from an e-reader. It is forbidden to make purchases or to write with the intention of a permanent recording on these devices, including the composing and sending of e-mails.
3. It is permitted on Shabbat to converse with loved ones via electronic devices.

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<sup>1</sup> I am grateful to my congregant Dr. Neil Spingarn for pointing this out to me. Neil, Yale-trained chemist, has led a weekly Talmud study group in his home for the past fifteen years. Neil told me that they are now studying the laws of the goring ox and is impressed with the Rabbis' attempts to limit the category of presumptive knowledge that an ox is dangerous (*mu'ad*), which would entail greater damages than a normal ox. Repeatedly, he notes, that the rabbis of the Talmud use narrow definitions of Torah to avoid imposing severe, practical outcomes.

<sup>2</sup> David Siegel, a congregant and computer engineer, wrote to me, "I would compare the energy that is derived from the conversion of photos (the light of the sun) to the energy conversion of electromagnetism (radio waves). If we allow the sun to warm our food (the conversion of photon energy to heat) then why not electromagnetism to heat?"

<sup>3</sup> I want to thank my congregant Uri Elzur for studying the Feinstein *teshuvah* with me. Uri Elzur is a Technion University graduate in computer science and has a yeshivah background. Our close reading reassured me that my difficulty in following Rabbi Feinstein's analysis was not due to the language. In explaining computer memory to me, Uri emphasized that how memory gets stored from cache and main memory, which have a transitory quality, to the larger, slower and more permanent hard drive (or in newer technology to solid state memory) is unpredictable in timing and in that regard is *grama*, the rabbinic category of indirect outcome.

<sup>4</sup> My congregant Jeremy Segal, a computer professional and son of the late Rabbi Jacob Segal of Detroit, writes "From what I read in Rabbi Nevins' document and in your dissent, it has already been established that changing the position of an electrical switch from "On" to "Off" or vice versa is permissible. All of these records and documents are really very large numbers of on/off switches (called "bits"). Each bit is either in an "On" state (1) or an "Off" state (0). In a plain text document, each character (letter, number, space, punctuation mark) is stored as a group of either 8 or 16 bits (8 or 16 on/off switches). For example the character "A" in standard ASCII text is represented by 8 bits as follows: "10000001". In other words, the first switch is on, the next 6 switches are off, and the 8<sup>th</sup> switch is on. Substitute "bit" for "switch" and you're talking computer language. So, when you browse to a web site, look at a document or picture, or use Skype to talk to (and video call) a loved one or friend, what is really happening is that there are millions/billions of tiny switches being turned on and off" [explanation of Jeremy Segal, computer programmer, son of Rabbi Jacob Segal].

<sup>5</sup> Jeremy Segal points out that we should not be fooled by the labels put on technology: "In the case of the E-readers which use "E-ink", this is a misleading brand name (the company is called E Ink) used for a particular type of digital display. It is NOT ink. Just like with any other digital display, each pixel is controlled by an array of transistor switches. The difference between these displays and other digital displays such as LCD and OLED displays is that the other displays require a light source. LCD screens have a backlight which shines through the screen which is covered with the LCD pixels, and the array of transistors control each pixel (actually a set of 3 sub-pixels, red green and blue) to control how much of the backlight is allowed to pass through. OLED screens have each red, green or blue pixel actually emit light. In the E Ink display, the array of transistors control an array of microscopic capsules which are filled with liquid and a set of positively charged white

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pigment chips and a set of negatively charged black pigment chips. When the electrical charge of the transistor-controlled electrodes above and below the microcapsule have positive on top and negative on the bottom, the negatively charged black chips go to the top of the microcapsule and the pixel is black. When the electrodes have negative on top and positive on the bottom, the positively charged white pigment chips go to the top of the microcapsule and the pixel is white. The difference here is that the pigment chips stay where they are until a fresh "instruction" comes along in the form of a positive or negative charge to the electrodes. So where the LCD or OLED screen is dependent upon a constant flow of electrons to keep the transistor switches in the proper state, the E Ink display only requires the transistor switches to power up momentarily to change the position of the pigment chips within the microcapsules. There's a nice graphic and explanation of this technology at <http://www.wired.com/gadgetlab/2010/11/how-e-inks-triton-color-displays-work-in-e-readers-and-beyond/>.

The fact that the E Ink technology does not require a constant flow of electricity to keep the transistor switches in the desired state is what makes it so much more energy efficient. To my mind, the moving of these pigments within the microcapsules could be analogous to writing in sand, except that the image will persist until the screen is deliberately blanked or a new image replaces the current image."



*"Nice, but as long as there are readers there will be scrolls."*

להשלחן והווי' דברים. אבל מרש"י ראה גדולה שנעשו אפילו הרבה דברים בסיס, והוא פשוט לדינא, וגם בסברא אין טעם לחלק וגאסר אף השלחן לטלטלו.

ומש"כ מע"כ דלתוספות בשם ר"ת בדף נ"א ובשם הר"י בדף מ"ג שמתירין בדעתו ליטלו בשבת, שכמו כן יש להתיר לדידהו כשהיה בדעתו להניח על השלחן את החלות שהיה אז בסיס גם להתיר שמותר, נראה דל"ד כלל דבדעתו ליטלו משם לא עשאוהו בסיס כלל דבסיס לדידהו הוא רק שהניחו לכל השבת, אבל כשהניחו לכל השבת שנעשה בסיס רק שהיה בדעתו להניח גם היתר, שאם היה עושה כן היה מותר אף שהוא בסיס לאיסור מטעם שהוא בסיס גם להתיר, הא עכ"פ לא הניח ההיתר ולא היה לפי המציאות בסיס גם להתיר שיפקיע האיסור, וכי מחשבה הוא כמעשה הא אף בלא שכח והיה אנוס לא הוי כמאן דעביד והניח, כ"ש בשכח שלא הוי כעביד, וכן לטעם הר"י בתוספות דף מ"ג דבדעתו ליטלו בשבת אפילו מניח חשיב כשוכח, וכן כתבו התוספות עירובין דף ע"ז ד"ה מקצת עיר"ש, דהטעם בארתי בחדושי דכיון דדעתו ליטלו בשבת אמרינן דלא עשאו בסיס אף לתחלת השבת שהיה דעתו שיניח שם, אלא הוא כהניח בעלמא כמתעסק מחמת שהוצרך להניחו באיזה מקום דיש לנו לתלות לקולא, שלכן נידון כנמצא ממילא שם מחמת שכחה וכדומה, ודאי לא שייך זה בהניחו לכל השבת אך שהיה במחשבתו להניח שם גם דבר היתר, ולכן אף לתוספות המתירין בדעתו ליטול בשבת שהוא ה"א בש"ע סימן ש"ט סעיף ד' שהמג"א סק"ז כתב דבמקום פסידא יש לסמוך על זה, אין להתיר בעובדא זו מצד שהיה דעתו להניח על השלחן גם החלות שהן היתר, אבל אף שאסור לטלטלו להשלחן היה מותר לאכול על השלחן דאין להרש שמא יטלטלוהו דאין הדרך לטלטל שלחן בשעה שאוכלין עליו.

ידידו מברכו,

משה פיינשטיין

סימן נב

### בענין בשול בחמה

ז' מנחם אב תשל"א.

מע"כ ידיד בן ידיד חשוב ונכבד בר אוריין ובר אבהן, מוהר"ר אליעזר נחום אייזענבערג, שליט"א.

הנה בדבר בשול בחמה דליכא איסור בשבת שפרש"י בשבת דף ל"ט וכן הר"ן מטעם דאין דרך בשול

בכך, הוא פשוט משום דנהי שהבשול שהיה במשכן היה באש מ"מ היה שייך למילף גם בשול ע"י חמה להיות תולדה, דהא מכל האבות מלאכות שהיו במשכן הרי למדין לחייב גם כל הדומה להאבות באותו החיוב ממש ונקראו תולדות, שלכן הוצרך רש"י לפרש שאין למדין בשול ע"י חמה מבשול ע"י האש שהיה במשכן משום שאין דרך בשול בכך, ואין הכוונה דאין דרך בשול בכך כהא דעושה מלאכה כלאחר ידו ושאר שניים שפטור כדאיתא בדף צ"ב בהוצאה ה"ה בכל מלאכה שצריך לעשותה כדרך שעושים בני"א מלאכה זו כדאשכחן בכמה דוכתי, דהא חוינן שבתולדות החמה איכא גם אלו שדרך לבשל בהם ממש כמו בתולדות האור, דהרי המתבשל בחמי טבריא תליא דלר' יוסי דסובר דתולדות אור הם דחלפי אפתחא דגיהנם חייב ולרבנן דתולדות חמה נינהו פטור כדאר"ה בדף מ', ואם אין דרך מלאכה בכך מ"ט יתחייב כשהוא תולדות האור, דמ"ש מבורר בקנן ובתמחוי שפטור משום שאין דרך מלאכה בורר בכך בדף ע"ד ומנטל צפרניו בידו ובשניו שפטור משום דאין דרך גזיזה בכך בדף צ"ד, אלא ודאי שהוא דרך מלאכה מאחר שהם חמים טובא שיכולין לבשל, ומ"מ לרבנן שחמי טבריא הם תולדות חמה פטור, וכן בסודר שהוחם באור הוא חייב בגלגל ביצה בהסודר דתולדות האור הם כאור שחייב ובהוחם הסודר בחמה באותו החום וגלגל ביצה פטור, אלא כוונתם דאין להחשיב דלאו דרך מלאכה הוא לבשל בחמה דאם אין לו עצים והוא דבר המתבשל בחמה יבשלו בחמה, אבל כיון שעכ"פ אין מבשלין בחמה אלא כשאין לו עצים אין למילף אותו מבשול על ידי האור שהיתה במשכן להחשיבו תולדה מאחר שאינו דומה להבשול שהיה במשכן.

וממילא מאחר שלא ילפינן בשול חמה מבשול האור ליכא חיוב אף לא לתולדות החמה אף שדרך הבשול על ידם הוא כמו על ידי תולדות האור, דהסודר הא נתחמם בחמה באותה מדה שנתחמם באש, וחמי טבריא הם חמים כחמי האור, דמאחר דהבשול דחמה אינה מכלל המלאכה משום דלא דמו למבשל שהיה במשכן אין למילף שוב את התולדות דממילא גם הם לא דמו לבשול שבמשכן כיון שהם תולדות דבר שאין בו מלאכת בשול.

ואולי יש לומר בטעם אחר דתולדות החמה וגם תולדות האור אין הדרך כל כך לבשל בהם, שלכן אין למילף אותם שיהיו תולדה מצד חמום של עצמם אף לא לתולדות האור, אך שמ"מ חייב גם על הבשול



דע"י תולדות האור מצד שנחשב זה כבשול מצד האש עצמו שהרי החמימות שבהמים הסודר הרי הוא מהאש וממילא הוא בכלל בשול תאש עצמו שהרי חמום האש הוא המבשל, שלכן אף שלא היה בשול זה ממש במשכן כיון שאין לחשוב זה שינוי מדרך המלאכה חייב, ודמי זה להעמיד הקדרה ברחוק קצת יותר מהאש מכפי דרך בניא אבל הוא עכ"פ מקום תראוי להתבשל במשך יותר זמן שהאי חייב אף אם במשכן לא היו עושין כן כדי למהר הבשול, וכמו כן הוא במבשל בתולדות האור שהוא בשול בחמימות תאור לא שייך לחלק כל זמן שאין זה שינוי ממש מדרך המלאכה שיש אף רק מעט אינשי דמבשלין בהם, ולכן כשהם תולדות חמה אף ששוין ממש במדת התום כמו אם היו תולדות האור כהא דחמי סכריא וכהא דסודר שבחמימותו יכול לבשל ביצה, פטור דמצד עצמן הא אין למילף תולדות מבשול האש שהיה במשכן מאחר דאין הדרך כל כך לבשל בהן וכל החיוב בתולדות האור הוא מצד שהוא נחשב בשול בחמימות האש שזה הא ליכא בתולדות החמה, שאם נחשוב כן הרי מתבשל בחמימות החמה שאין בו חשיבות מלאכה, וטעם זה הוא יותר מסתבר.

ולמה שבארתי כחזת רש"י הר"ן מסתבר שזהו גם כחזת קרית ספר דכתב דאין בשול מן התורה אלא באש, ולא מליגי כלל, אלא שלא כתב הטעם דפירשו רש"י הר"ן, דהא מוכרח כן דבלא טעם היה לן דאי למילף מבשול אש שהיה במשכן כמו כל התולדות.

ואיכ בתמייקרידיו ארוען שטוב לבשל בו כמו באש ממש ואלו שיש להם תנור כזה משתמשים בו יותר מבשול דבאש ומה שלא נתפסו תנורים אלו עדיין הוא משום דלא מצוי עדיין הרבה תנורים וכשיהיו מצויין דאי ישתמשו בהם כריע דהא הוא יותר טוב, דאי יש למילף מבשול דאור דהיה במשכן בחשיבות תולדה שהוא לכל הדינים כהאב דבשול ע"י האור לאיסור ולחיוב סקילה חסאת, לא רק לרש"י הר"ן אלא אף לקרית ספר דהרי לא פליגי כלל לפ"מ שבארתי.

ומש"כ כתר"ה בהגד לאסור בלשון זה, אע"פ שאין זה אש ממש מ"מ כיון שהכינו לבשל בו ונתכוין שיהיה כמו אש ממש לא כמו חמה שלא עשה מעשה במבשל, תנת לא חט הטעם מה שליכא איסור בשול בחמה דאמילו עשה מעשה דהביא הקדרה על הגג ששם ורחת השמש יותר עד שיכול לבשל נמי ליכא איסור בשול, והטעם הוא כפרש"י הר"ן וכדבארתי דבריהם.

ולענין אם איכא מלאכת מכה בפטיש באוכלי כשגמר בשולו, הרי תביא כתר"ה שהמ"ב בבאור הלכ סימן ש"ח בסעיף ד' ד"ה והדחתן מביא דרוב שיטתו הראשונים מפרשים במליה הישן וקוליים האיטפני דדוקא בחמין משום בשול ולא בצונן אלמא דליכא מכה בפטיש בבשול אוכלין, אבל הא לפי מה שמבין באור הלכה מנשמת אדם דבמליה וקוליים האיטפני כיון דהיה יכול לאכול מתחלה ע"י הדחק ליכא משום מכה בפטיש, שוב לא נבטל סברת הברוש והפמ"י שאיכא משום מכה בפטיש באוכלין אלא רק במה שגו במליה הישן וקוליים האיטפני, נמי סובר הפמ"ג דהו משום מכה בפטיש, וכן נראה תירוצ הגשמת אדם שלכאורה תמהו דהא מכה בפטיש הוא על הגמר אן שכבר הוא כלי ראוי לתשיש, נראה דכיון דהיה יכו לאכול מתחלה ע"י הדחק שחשיבות אוכל כבר ית להו ליכא שוב גמר דהרי זה אוכל כמו שהוא זה אוכל כשידיתו בצונן וזה אוכל כשידיתו בחמין דכלי שנ זה בחמין דכלי ראשון, וממילא ליכא בזה מציאות דמלאכת מכה בפטיש, ואין לחייב אלא משום מבשול דהוא דוקא בחמין, אבל באומן דאיכא גמר מלאכה כגון דבר שאין יכולין לאכול בלא הדחה ובהדחה נעשה לאוכל הוא גמר לחשיבות אוכל ולכן שייך ע"י מלאכת מכה בפטיש אף שאיכא אינשי דלא אכלי עו שידיתו בחמין דכלי ראשון, משום דעכ"פ לעני חשיבות אוכל נעשה בהדחה לאוכל והיה זה גמו מלאכה שהוא מלאכת מכה בפטיש.

ואיכ אפשר שכל הגי ראשונים סברי כתירד הנש"א דמליה הישן וקוליים האיטפני נאכלין גו מתחלה ע"י הדחק וליכא ממילא מלאכת מכה בפטיש כדלעיל, הר"ן שהביא בבאור הלכה שסובר דמליו הישן אינו נאכל כלל וע"י הדחה הוא נאכל ע"י הדחה שלדידיה צריך לומר בבאור הלכה שליכא מכו בפטיש באוכלין, אין הכרח ששאר הראשונים יסברו כמותו, וממילא מתורץ גם קושית באור הלכה מה דא"ר יוסף גלגל הביצה במה שנתן בצד המיחם חיי חסאת, דג"כ כיון שנאכל כמות שהוא חי ליכא שנו ענין מכה בפטיש שזה אוכל בבשול משהו, זה יותר מעט זה עוד מעט יותר זה כשנעשית קשה, וא"י ממש הוא כמליה הישן וקוליים האיטפני לתירד הנשמת אדם, ודימה מר בריה דרבינא שפיו שבתרוייהו הוא משום מבשל, ושפיר כתב הגר"א דלביצה ומליה הישן דין אחד לשניהן, אבל ליכא ראייה מכאן שליכא ענין מכה בפטיש באוכלין דבדבו שאינו ראוי לאכול כלל ובהדחתו אף בצונן נעשו דאוי לאכילה אף שעדיין לא יאכלו הרבה אינשי איכא מלאכת מכה בפטיש כסברת הגשמת אדם.

זוה נראה שהיתה כוונת אביך מהר"ר אהרן צבי שליט"א, לתרץ בביצה שהוא משום דנאכל חי שהוא כתירוץ הנשמת אדם במליח הישן וקוליים האיטפנין, ולמה שבארתי בכוונת תירוץ הנש"א לא קשה מתא הביצה יש בה משום בשולי עכ"ם דאף דכיון דנאכל רק ע"פ הדחק כשהוא חי יש בזה איסור בשולי עכ"ם מ"מ מועיל זה לסלק ענין מלאכת מכה בפטיש דזה עושה דשונ ליכא גמר מלאכה מאחר דזה אוכל כך זה אוכל כך כדלעיל.

אבל קושית באור הלכה משויי אוכלא משויינן לר' יהודה בדף קנ"ה ולא מחייב משום מכה בפטיש לכאורה היא קשיא עליהו, ולכן היה מסתבר לדינא כבאור הלכה, אבל עכ"פ אין לנו לדחות דברי הלבוש והפמ"ג והנש"א בשביל זה ולכן הוא קצת ספק לדינא.

ודברי הצנפת פענח שהביא כתר"ה דכל דבר שנתבשל בחמה הדר כמו בדם שנקרש בחמה שאיתא במנחות דף כ"א דהדר, ודאי צדק כתר"ה דמוקשין מאד דברור דלא הדרא ביצה וכל דבר שנתבשל ע"י חמה לכתחלה, ול"ד לרם שנקפה קודם שנתבשל דלאחר שנקפה שוב אינו מתבשל שלכן הדר לכתחלה.

ומאחר שאיכא איסור בשול בתנור זה יצטרכו לעשות הכירא כעין גרופה וקטומה לתנור דאש להיתר שהיה.

והנני ידידו מוקירו ומברכו באהבה.

משה פיינשטיין

סימן נג

**בחולת שאין בו סכנה שהתחיל ליקח  
הרפואה בחול וצריך ליקח עשרה ימים  
רצופין אם יש מקום להתיר ליקח גם  
בשבת**

ג' אלול תשכ"ח.

מע"כ ידידי הר"ג מהר"ר אפרים גרינבלאט.  
שליט"א.

**בדבר חולה שאין בו סכנה באופן שאסור לו ליקח  
רפואה בשבת והתחיל לקחת בחול כדורי רפואה**

שנקראו פילן שצריך ליקחם לדברי הרופא משך עשרה ימים רצופין ואם יפסיק יום אחד לא תפעול הרפואה כלום אם מותר ליקח בשבת, הנה לכאורה לא מובן צד ספק ההיתר בזה אלא דאולי מצד הפסדו הגדול בחולי זה שלא יוכל להרפא בדרך הטבע מצטער ביותר בשביל זה שלכן אולי יתחשב כמיחוש שמצטער טובא שנוכר ברמ"א סימן שכ"ח סעיף י"ו, אבל הא אין הטעם מצד הצער אלא משום שנחלה כל גופו מצד הצער מחמת שאינו יכול לסבול הצער, ולא מצד צער בעלמא שמצטער על מה שלא יתרפא אף שזהו לאינש צער גדול אין להתיר, ואם הוא איש כזה שמחמת שלהתרפא בהפילן צריך עשרה ימים רצופין שא"א בלא שיקח גם בשבת לא יוכל להתרפא יחלה מצד זה בחולשת העצבים שקורין נערוון שיהיה חשש להמחלה שנקרא נערוון ברעק דאן הוא ודאי בדין מיחוש שמצטער כל גופו שיש להתיר שיקח בשינוי קצת השיך לשנות גם ברפואת לקיחת הפילן אף שלא שייך שינוי בהבליעה, דהוא כהסברא השלישית שם, ואם א"א בשינוי יש להתיר גם בלא שינוי כשיטה ראשונה שם, אבל אין מצוי אנשים כאלו ובסתם בני אדם יש לאסור.

**חולת שמותר ליקח רפואה בשבת ויש  
לו גם מיחוש וחולי שלמחלה זו היה  
אסור ליקח רפואות אם הותר לו גם  
ליקח הרפואה להמיחוש**

ובחולה שמותר לקחת רפואה בשבת ויש לו גם מיחוש וחולי כזה שאסור בשביל מחלה זו לקחת רפואה, אם מכיון שהותר לו לקחת רפואה בשביל המחלה הותר לו גם ליקח הרפואה בשביל המיחוש החולי שהיה אסור בשבילו או שלא הותר, מסתבר שאסור אף שלא ידוע לי דאיה ע"ו, דאין טעם להתירו, דהא צריך מלאכה אחרת בשביל הרפואה דהמיחוש ויש לחוש לשחיקת סממנים והבשול וההוצאה לרה"ר שבשביל רפואה זו שצריכים ביחוד והוא ממילא בכלל הגזירה, אך אם בשביל המיחוש א"צ לרפואה אחרת רק ליקח יותר מרפואה זו עצמה, יש מקום להיתר דאולי לא שייך כל כך גזירה שמא ירבה דלא מצוי זה כ"כ שנגזור בזה, ובכלל איסור דלקיחת רפואה שהוא בשביל שחיקת סממנים וכדומה שהוא ביחוד בשביל רפואה זו ליכא כיון שבזו לא