



To Save the Sound of a Stradivarius, a Whole City Must Keep Quiet -Max Paradiso, New York Times, January 17, 2019

CREMONA, Italy — Florencia Rastelli was mortified. As an expert barista, she had never spilled a single cup of coffee, she said. But last Monday, as she wiped the counter at Chiave di Bacco, the cafe where she works, she knocked over a glass and it shattered loudly on the floor. The customers all stood still, petrified, Ms. Rastelli recalled. “I was like: Of all days, this one,” she said. “Even a police officer popped in and asked me to keep it down. I was so embarrassed.” The people of Cremona are unusually sensitive to noise right now. The police have cordoned off streets in the usually bustling city center and traffic has been diverted. During a recent news conference, the city’s mayor, Gianluca Galimberti, implored Cremona’s citizens to avoid any sudden and unnecessary sounds. Cremona is home to the workshops of some of the world’s finest instrument makers, including Antonio Stradivari, who in the 17th and 18th centuries produced some of the finest violins and cellos ever made. The city is getting behind an ambitious project to digitally record the sounds of the Stradivarius instruments for posterity, as well as others by Amati and Guarneri del Gesù, two other famous Cremona craftsmen. And that means being quiet. A Stradivarius violin, viola or cello represents the pinnacle of sound engineering, and nobody has been able to replicate their unique tones. Fausto Cacciatori, the curator of Cremona’s Museo del Violino, a museum devoted to musical instruments that is assisting with the project, said that each Stradivarius had “its own personality.” But, he added, their distinctive sounds “will inevitably change,” and could even be lost within just a few decades. “It’s part of their life cycle,” Mr. Cacciatori said. “We preserve and restore them, but after they reach a certain age, they become too fragile to be played and they ‘go to sleep,’ so to speak.” So that future generations won’t miss out on hearing the instruments, three sound engineers are producing the “Stradivarius Sound Bank” — a database storing all the possible tones that four instruments selected from the Museo del Violino’s collection can produce. One of the engineers, Mattia Bersani, said that the sounds in the database could be manipulated with software to produce new recordings when the tone of the original instruments degraded. Musicians of the future would be able to “record a sonata with an instrument that will no longer function,” he said. “This will allow my grandchildren to hear what a Strad sounded like,” said Leonardo Tedeschi, a former D.J. who came up with the idea for the project. “We are making immortal the finest instrument ever crafted.” Throughout January, four musicians playing two violins, a viola and a cello will work through hundreds of scales and arpeggios, using different techniques with their bows, or plucking the strings. Thirty-two ultrasensitive microphones set up in the museum’s auditorium will capture the sounds. “It’ll be physically and mentally challenging for them,” said Thomas Koritke, a sound engineer from Hamburg, Germany, who is leading the project. “They’ll have to play hundreds of thousands of individual notes and transitions for eight hours a day, six days a week, for more than a month.” Organizing the project had also taken a long time, Mr. Koritke added. “It took us a few years to convince the museum to let us use 500-year-old stringed instruments,” he said. Then they had to find top musicians who knew the instruments inside out. Then the acoustics of the auditorium, which was designed around the sound of the instruments, had to be studied, as well. In 2017, the engineers thought their project was finally ready to get underway. But a soundcheck revealed a major flaw. “The streets around the auditorium are all made of cobblestone, an auditory nightmare,” Mr. Tedeschi said. The sound of a car engine, or a woman walking in high heels, produces vibrations that run underground and reverberate in the microphones, making the recording worthless, he explained. “It was either shutting down the entire area or having the project not seeing the light of day,” Mr. Tedeschi said. Luckily for the engineers, Cremona’s mayor is also the president of the Stradivarius Foundation, the municipal body that owns the Museo del Violino. He allowed the streets around the museum to be closed for five weeks, and appealed to people in the city to keep it down. “We are the only city in the world that preserves both the instruments and their voices,” Mr. Galimberti said. “This is an extraordinary project that looks at the future, and I’m sure people from Cremona will understand that closing the area was inevitable.” On Jan. 7, the police cordoned off the streets. The auditorium’s ventilation and elevators were turned off. Every light bulb in the concert hall was unscrewed to eliminate a faint buzzing sound. Upstairs in the museum, Mr. Cacciatori put on a pair of velvet gloves and took a 1615 Amati viola from its glass display case. He inspected it thoroughly, and then a security guard escorted him and the instrument down two flight of stairs to the auditorium. The curator handed the instrument to Wim Janssen, a Dutch viola player, who walked to the center of the stage. He sat on a

chair in the semidarkness under a cluster of microphones. The three engineers left the hall, and took their seats in a soundproofed room beneath the hall filled with speakers and computer screens, servers and cables. Mr. Janssen wore an earpiece, through which Mr. Koritke relayed instructions. "Go," Mr. Koritke whispered. The violist played a C-major scale as the recording team watched graphs on their screens responding to the crisp sound of the instrument. Mr. Tedeschi grinned in satisfaction. Then it happened, and they froze. "Stop for a moment, please," Mr. Koritke said, and the violist held his position. The engineers rewound the recording, and played it again. Mr. Koritke heard the problem, loud and clear: "Who dropped a glass on the floor?"

1. Bereishit 4:21 (Alhatorah.org translation)

וְשֵׁם אָחִיו יוֹבֵל הָיָה אָבִי כָל־תִּפְשׁ כְּנֹר וְעוּגָב:

His brother's name was Jubal; he was the father of all who handle the harp and pipe.

2. Targum Onkelos, Bereishit 4:21 (Alhatorah.org translation)

וְשֵׁם אָחִיו יוֹבֵל, הוּא הָיָה, רִבְהוֹן דְּכָל דְּמַנְגֵן עַל פּוּם נְבִלָא יָדְעִי זְמַר כְּנָרָא וְאַבְבָּא.

And the name of his brother was Juval. He was the master of all who play upon the mouth of the pipe, who know the song of the harp and of the organ.

3. Haketav Vehakabbalah, Bereishit 4:21

תופש כנור ועוגב – המציא החכמה המפוארה לעשות מיני כלי זמר.

"Handle the harp and pipe" – he discovered the wonderful wisdom of creating types of musical instruments.

4. Rav Dovid Tzvi Hoffman, commentary to Bereishit 4:21

יובל היה המוזיקאי הראשון, "תפש" במובן של אוהז ומשתמש. "כנור" מלשון כנר — להוציא קול מסויים, או מלשון כְּנָרָא (סורית) — פשתן, החומר שממנו מכינים את המיתרים — והכתוב מציין כלי מיתרים זה ככלי נגינה העתיק ביותר.

Yuval was the first musician. "Handle" in the sense of holding and using. Kinor is from the root K-N-R to emit a specific sound, or from the root of kinra (syriac) – flax/linen, the material from which they prepared the strings. The verse points out that this stringed instrument was the oldest musical instrument.

5. Did Jews Invent The Violin?, Jerusalem Post, August 20, 2009

...There's further evidence that the violin may be of Jewish origin. It's based on Prior's second theory: that the renowned Amati family was Jewish. The Amatis are famed for being the first makers of the modern violin (and for teaching Antonio Stradivari, widely regarded to be the best violin craftsman in history). If the Amatis were Jewish, this could once again point to the violin being of Jewish origin since they were the earliest prominent makers of the modern violin. Once again, in collecting evidence about the Amatis, Prior looked to their last name. He consulted Bibliografia Ebraica, a book of Jewish-Italian names by Carlo Barduzzi, which posits that the Hebrew surname "Haviv," which means lovable or likable in Hebrew, is equivalent to the Italian surname "Amato," which means beloved in Italian. "Their last name may be evidence of the Jewish connection with the violin. They may have chosen the name, of course. I think it's the Jewish habit of taking positive-sounding names which bring good luck," Prior says. Despite this evidence, he acknowledges that it's not enough to verify for certain that the Amatis were Jewish. At this point, Prior's theories are only theories. One skeptic is Prof. Alexander Knapp, an ethnomusicologist from the University of London who specializes in Jewish music. He contends that there is not sufficient evidence to conclude that the violin is of Jewish origin. "As far as I understand, the viol existed in Italy and lots of other places throughout Europe. One can't say it existed in Spain and was then brought to Italy. Even if it was, it doesn't mean to say that Jews are the only ones who played the viol. So the violin could have been invented by others, then the Jews traveled. But other people traveled too, like gypsies. So I think it's unrealistic, wishful thinking to say that," Knapp says...

6. Tehillim 33:2 (Alhatorah.org translation)

הודו לי"י בְּכִנּוֹר בְּנֶגְבַל עֶשׂוֹר וּמְרוֹיָלוֹ:

Give thanks unto the Lord with harp, Sing praises unto Him with the psalter of ten strings.

7. Radak, Tehillim 33:2

הודו לי"י בכנור – כי כלי הנגון מעוררים הנפש החכמה ועוזרים אותה.

Give thanks to Hashem with the kinor – because musical instruments uplift the wise soul and help it.

8. Talmud Bavli, Berachot 3b (Davidson Edition translation)

דאמר רב אחא בר ביזנא אמר רבי שמעון חסידא כנור היה תלוי למעלה ממטתו של דוד וכיון שהגיע חצות לילה בא רוח צפונית ונושבת בו ומנגן מאליו מיד היה עומד ועוסק בתורה...

As Rav Aha bar Bizna said that Rabbi Shimon Ḥasida said: A lyre hung over David's bed, and once midnight arrived, the northern midnight wind would come and cause the lyre to play on its own. David would immediately rise from his bed and study Torah...

Super blood wolf moon: This is what you may have missed -CTV News, January 21, 2019

The only total lunar eclipse of 2019 has come and gone, treating sky gazers to a rare show known as a 'super blood wolf moon.' The unique eclipse's moniker comes from the combination of a total lunar eclipse, a super moon, and the traditional name for the first full moon in January. "This is the full moon in January, historically, and culturally, the first full moon in January," H.R. Macmillian Space Centre astronomer Kat Kelly told CTV Vancouver. "People would have heard wolves howling from hunger and so that's where the name comes from, the super blood wolf moon." The full eclipse began around 10:30 p.m. EST, going completely dark around 11:40 p.m. EST. The total eclipse phase lasted about an hour with the moon starting to lighten up again at 12:40 p.m. EST, before wrapping about 1:50 a.m. EST. With the winter weather not enough to stop people from going out and watching the skies, users took to social media to share their best images from the eclipse. Some braved the cold for hours, waiting for that perfect shot... For avid sky watchers who may have missed last night's show, another super blood wolf moon may not be coming again anytime soon, but other celestial oddities are on the way this year. The transit of Mercury, when the planet passes in front of the sun, will occur on November 11, 2019. The planet will appear as a tiny silhouette crossing the sun, if viewed safely through solar eclipse glasses. According to the Canadian Space agency, the next total lunar eclipse is set to take place on May 26, 2021.

9. Shemot 20:3-5 (JPS translation)

לֹא יִהְיֶה-לְךָ אֱלֹהִים אֲחֵרִים עִלִּיִּי:

You shall have no other gods besides Me.

לֹא תַעֲשֶׂה-לְךָ פֶסֶל וְכָל־תְּמוּנָה אֲשֶׁר בַּשָּׁמַיִם וְאֲשֶׁר בָּאָרֶץ מִמָּעַל וְאֲשֶׁר בְּמַיִם וְאֲשֶׁר בְּתוֹךְ הָאָרֶץ:

You shall not make for yourself a sculptured image, or any likeness of what is in the heavens above, or on the earth below, or in the waters under the earth.

לֹא תִשָּׁתַחֲוּהָ לָהֶם וְלֹא תַעֲבֹדֵם כִּי אֲנִי יְקֹנֵךְ אֱלֹהֶיךָ קֹל מִנְּאִי פֶקֶד עֲוֹן אָבִת עַל־בְּנִים עַל־שְׁלִשִׁים וְעַל־רְבָעִים לְשֹׂנְאֵי י:

You shall not bow down to them or serve them. For I the LORD your G-d am an impassioned G-d, visiting the guilt of the parents upon the children, upon the third and upon the fourth generations of those who reject Me,

10. Shemot 20:20

לֹא תַעֲשִׂיוּ אִתִּי אֱלֹהִי כֶסֶף וְאֱלֹהִי זָהָב לֹא תַעֲשִׂוּ לָכֶם:

With Me, therefore, you shall not make any gods of silver, nor shall you make for yourselves any gods of gold.

11. Rashi, Shemot 20:20 (Rosenbaum and Silberman translation)

לא תעשון אתי. לא תעשון דמות שְׁמָשִׁי הַמְשָׁמֵשִׁים לִפְנֵי בְּמִרּוֹם (מכילתא):

YE SHALL NOT MAKE WITH ME — Ye shall not make an image of My ministers that minister before Me in the heights (Mekhilta d'Rabbi Yishmael 20:20:1).

12. Malbim, Shemot 20:20

לא תעשון אתי. לדעת המפ' אלהי כסף נמשך למעלה לא תעשון אלהי כסף, ואין כן דעת מניח הטעמים שהעמיד את האתנחתא על מלת אתי, ולכן פי' חז"ל שלא תעשו צורה מכל דבר הנמצא אתי במרום

“You should not make with me” – according to the commentaries, “gods of silver” is attached to the beginning of the verse, “do not make gods of silver”, but not so was the understanding of the placer of the cantillation notes, who placed the etnachta [a note that indicates a pause or short stop] on the word “with me”, and therefore the Rabbis explained that one should not make the shape of anything which is found “with me” in the skies.

13. Responsa Minchat Yitzchak 10:72

תמול נמסר לי שאלתו ע"י איש ביתי שליט"א וז"ל: מהא דקיי"ל דאסור לעשות דמות חמה בין בולטת בין שוקעת וכו' יש להעלות דין פשוט שאסור לצלם חמה, (שיש מצלמים במצלמה בשעת השקיעה), אך נסתפקתי אם עצם הצילום אסור, כיון שבשעת הצילום נקלט ע"ג סרט הצילום תמונה הפוכה, היינו השמש תופיע ע"ג סרט הצילום "נקודה שחורה", ואולם השתא לא חשוב שעושה דמות חמה, והגם שפשוט שאח"כ יהי' אסור להפוך את זה לתמונה מ"מ יש נ"מ לדינא, שכן הסרטת סרט ע"ג הקיר וכו' עושים ע"י סרט הצילום באופן שמקרינים עליו אור וע"י כך נראית דמות חמה ע"ג הקיר, ונסתפקתי אולי זה מותר, אך יש צד לאיסור שהתמונה המופיעה על הקיר אולי היא אסורה, אע"פ שאינה מתקיימת, (שכן ע"י כיבוי המכשיר מיד נעלמת התמונה) עכ"ל... ורק אם הם להתלמד להבין ולהורות ה' אפשר למצוא היתר, וכדאיתא בשו"ע שם, אבל מי הוא שיוכל לומר שהגיע למדרגה זאת, וכי אי אפשר להתלמד בלא זה.

Yesterday, your question was passed on to me by a family member (shlit"a), and it read as follows: “Based on that which we conclude that it is prohibited to create the likeness of the sun, whether protruding or sunk in etc. [See Shulchan Aruch Yoreh Deah 141:3], it should come out obviously that it would be prohibited to photograph the sun [or the moon] (as some people do around sunset), but I was unsure if the act of photographing is prohibited, since at the time of the photography the image is absorbed by the film as a negative, meaning that the sun appears on the film as a “black dot”, and perhaps at that point it would not be considered an image of the sun, and although afterwards it is obvious it is prohibited to turn it into an [actual] image, however, there is a difference for the rulings, since one who projects a film on to a wall etc., they do this using the film in a way that they shine light on it and through this [process] the image of the sun appears on the wall, and I was unsure if this is permitted, however, there is a reason to prohibit it, since the image that appears on the wall is prohibited, even though it does not last (as when the projector is turned off, the image immediately disappears)”

And only for the sake of learning, understanding or judging would it be possible to find a leniency, as it says in Shulchan Aruch there, but who is the person who can say that he has reached this level, is it impossible to learn without this?

14. Responsa Aseh Lecha Rav 6:54

והנה בנדון דידן שהוא צילום ממש של השמש או הירח אין כאן אלא עיגול או קשת ללא אותה דמות ציורית שעובדיה מיחסים לה. ואף אם נקבל כל החומרות הנ"ל לאסור עכ"פ אפילו במוצא וכ"ש לעשותן או לקיימם, הנה ראינו דעת הרמב"ן וגדול אחד שכתבו טעם האיסור משום חשדא, וכמו שכ"כ גם הש"ך (בס"ק ח') והכל יודעים שבזמננו אין אנו יודעים ומכירים עובדי שמש וירח, ואולי יימצאו בפאתי תבל ומי יחשוד באדם המחזיק דמות חמה בעיגול או לבנה בצורת קשת שכונתו לעובדם, והוא רחוק מאד מן המציאות, ועל כן נראה לענ"ד על יסוד כל הנ"ל שאין לאסור צילום שמש או ירח וכוכבים.

And in our case where there is a literal picture of the sun or moon, there is only a circle or bow without any of the drawn features that the worshippers associate with it [such as rays]. And even if we accept all of the aforementioned stringencies to [attempt to] prohibit this, nevertheless, regarding one who finds, and certainly to create them or keep them, we have already seen the opinion of the Ramban and one Gadol who wrote that the reason for this prohibition is due to suspicion [of worship], as the Shach (note 8) wrote as well, and everyone

knows that in our times we do not know or recognize sun- or moon- worshippers, and maybe they can be found in the outskirts of the settled world, who would suspect a person that possesses the image of the sun as a circle, or the moon in the shape of a bow as having intention to worship them? It is very far from the reality, and it therefore seems to me, based on all of the above, that one should not prohibit photographing the sun or the moon and stars.

15. Rabbi Doniel Neustadt, Weekly Halacha, Va'era 5773, Making an Image of Celestial Bodies

Question: Is it permitted to create (or photograph) an image of the sun or the moon for instructional purposes?

Discussion: Shulchan Aruch rules that it is permitted to create images of celestial bodies if it is for the purpose of “study, to [better] understand [their nature] and to [be able to] teach [their laws].” Indeed, the Talmud tells us that Rabban Gamliel himself used various moon shapes to assist him in questioning witnesses who testified regarding kiddush ha-chodesh. But contemporary poskim are divided concerning the practical applications of this leniency:

Some poskim permit creating these images only to aid in the study of practical halachah, as in the case of Rabban Gamliel.

Other poskim permit creating these images as teaching tools for any area of Torah study, e.g., when studying the creation of the world in Parashas Bereishis or when learning about Yosef's dream.

One should consult an *[sic]* halachic authority as to whether or not it is permitted to make an image of a celestial body if it is going to be used in a classroom science project, etc.

Question: Is it permitted to commission a non-Jew to draw (or photograph) an image of a celestial body?

Discussion: No, it is not permitted. Just as it is forbidden to instruct a non-Jew to desecrate the Shabbos on behalf of a Jew, so, too, it is forbidden to instruct a non-Jew to transgress any Torah prohibition on behalf of a Jew.

But once a picture (or a photograph) of an image of the sun, moon or stars has already been drawn or painted, it is permitted to leave it in one's domain; there is no obligation to destroy or get rid of it. [This applies to depressed or flat images only; a protruding image of a celestial body may not be kept in one's possession.]

Thus, if a picture of the sun, moon or stars appears in a book or a newspaper, one need not cut it out.

16. Talmud Bavli, Sukkah 29a (Davidson Edition translation)

תניא רבי מאיר אומר כל זמן שמאורות לוקין סימן רע לשונאיהם של ישראל מפני שמלומדין במכותיהן משל לסופר שבא לבית הספר ורצועה בידו מי דואג מי שרגיל ללקות בכל יום ויום הוא דואג תנו רבנן בזמן שהחמה לוקה סימן רע לעובדי כוכבים לבנה לוקה סימן רע לשונאיהם של ישראל מפני שישראל מונין ללבנה ועובדי כוכבים לחמה לוקה במזרח סימן רע ליושבי מזרח במערב סימן רע ליושבי מערב באמצע הרקיע סימן רע לכל העולם כולו פניו דומין לדם חרב בא לעולם

It is taught in a baraita that Rabbi Meir says: When the heavenly lights, i.e., the sun and the moon, are eclipsed, it is a bad omen for the enemies of the Jewish people, which is a euphemism for the Jewish people, because they are experienced in their beatings. Based on past experience, they assume that any calamity that afflicts the world is directed at them. The Gemara suggests a parable: This is similar to a teacher who comes to the school with a strap in his hand. Who worries? The child who is accustomed to be beaten each and every day is the one who worries. The Sages taught in another baraita: When the sun is eclipsed, it is a bad omen for the other nations. When the moon is eclipsed, it is a bad omen for the enemies of the Jewish people. This is due to the fact that the Jewish people calculate their calendar primarily based on the moon, and the other nations calculate based on the sun. When the sun is eclipsed in the east, it is a bad omen for the residents of the lands of the east. When it is eclipsed in the west, it is a bad omen for the residents of the lands of the west. When it is eclipsed in the middle of the sky, it is a bad omen for the entire world. If, during an eclipse, the visage of the sun is red like blood, it is an omen that sword, i.e., war, is coming to the world.

Rebbetzin Chana Bracha Sigelbaum, Ask the Rebbetzin, Is it permitted to gaze at the moon?

Shalom Rebbetzin Chana Bracha,

My husband has told me that according to the Talmud, it is not good to look at the moon. He didn't know the reason. If you could touch on this, I'd be very interested. Thank you for your understanding.

Wendy Shulman (name changed)

Dear Wendy,

I know the moon is so beautiful and that it is hard not to gaze at its soft glowing light. The rainbow is even more special yet, we are also not allowed to stare at it. It is hard to understand why the Torah prevents us from deriving pleasure from Hashem's most stunning creations. Judaism teaches the importance of enjoying the beautiful world that Hashem created for us. Could it really be forbidden to look at the moon and at the rainbow? What in the world would be a reason for that?...

First of all, it is not completely prohibited to look at the moon and the rainbow. If it was, how would one be able to sanctify the new moon or recite the blessing on the rainbow? There is a difference between looking and gazing. The definition of gazing is to consciously focus attention and derive enjoyment or satisfaction from what we see...

The Talmud does not record a prohibition of staring at the moon, but some well-respected Kabbalists, write: "Just as it is prohibited to gaze at a rainbow it is prohibited to gaze at the moon" (Sefer Chareidim 45:5; Sefer Shoshan Sodot). According to Kabbalah, it is just as harmful to gaze at the moon as it is to gaze at a rainbow (Sefer Ta'amei haMinhagim, Kuntres Achron to Siman 464:22). "Gazing at the moon" is enumerated in the Vidui version (confession) of Rabbeinu Avraham, father of the Shlah HaKadosh, among the sins that a person needs to do Teshuva. There are various opinions whether it is permitted to look at the moon during the monthly ritual of Kidush Levana (sanctifying the new moon). The Mishna Berura brings three views. According to the first view, which is what most people do, it is permitted to look at the moon until one completes the entire ritual. However, Sefer Chareidim permits looking at the moon for only the duration of the recital of the first blessing. The Magen Avraham, in the name of the Shelah HaKodesh, goes even further to permit one to only glance at the moon for a brief moment prior to reciting the blessing (Mishna Berura, Siman 426)...

The Jewish people are compared to the moon, which waxes and wanes. Just as the light of the moon in the future will be renewed to become like the light of the sun, so will Israel return to cleave to Hashem (Shulchan Aruch OC 426:2). The moon was originally the same size as the sun – "G-d made the two great luminaries" (Bereishit 1:16). Due to the moon's complaint, that two kings cannot share one crown, G-d told the moon to make itself small (Babylonian Talmud, Chulin 60b). The diminishment of the moon reflects the exile of the Shechinah, which resulted in the imperfection of the world and the splitting of the kingdom of David. The dim light of the moon symbolizes that Hashem's Divine Shechinah is not fully revealed in this world. This is because the world is not yet ready to receive the perpetual light of the Shechinah in all of its brightness. Since the diminishment of the moon, there has been a flaw in creation, and this is why we experience ups and downs in the history of our people as well as in our personal lives. Gazing at the moon could therefore symbolize blatantly looking down at the broken world without being able to rise above this imperfection. This is similar to when Lot's wife looked at the destruction of Sodom and turned into a pillar of salt, because she didn't merit to be saved while gazing at the destruction...

In the future, the light of the moon will grow big like the sun (Yesha'yahu 30:26). At that time, B"H, we will no longer be prohibited from gazing at the moon. Rather we will have reached a level where we will be able to rejoice and bask in its light!