

Molecular Typography Laboratory Kobi Franco

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THE QUICK BROWN FOX JUPPS DUER THE LASY DOD

D=200% E=0% I=0% J=0% K=0% V=0%

THE QUICK BROWN FOX JUIMPS OUER THE LASY DOD

D=0% E=0% I=0% J=250% K=0%

THE QUICK DROUGH FOX JUMPS OUER THE LASY DOC

D=0% E=0% I=0% J=0% K=200%

THE QUICK BROWN POXJUMPS DUER THE LASY DOB

D=200% E=0% I=0% J=250% K=200% V=150%

The Nexus between Typography and Poetics Batsheva Goldman-Ida

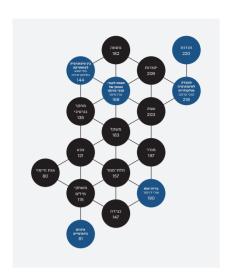
"I invented colors for the vowels! A black, E white, I red, O blue, U green. I made rules for the form and movement of every consonant, and I boasted of inventing rhythms from within me, a kind of poetry that all the senses, sooner or later, would recognize. And I alone would be its translator. I began it as an investigation. I turned silences and nights into words. What was unutterable, I wrote down. I made the whirling world stand stil ... At last, I began to consider my mind's disorder a sacred thing." 1

"I say that one must be a seer, make oneself a seer. The poet becomes a seer by a long, prodigious and rational disordering of all the senses. This language will be of the soul for the soul containing everything, smells, sounds, colors, thought holding on to thought and pulling."²

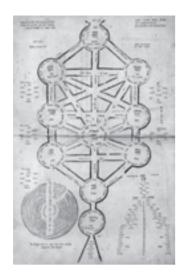
Arthur Rimbaud

Kobi Franco, a designer, artist and lecturer, embarked on a speculative analysis of the Hebrew alphabet. Following on an exercise that developed arbitrarily, as he himself confessed in the introduction to his study, Franco nevertheless set out for himself certain methodological rules of engagement. He chose a sans-serif typeface from the 1920s, developing it into a typeface of

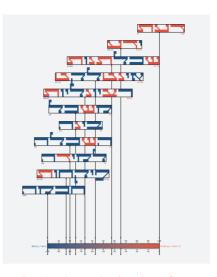
- 1 Arthur Rimbaud, "Second Delirium: The Alchemy of the Word," A Season in Hell, in Complete Works, trans. Paul Schmidt (New York: Harper Perennial, 2000), pp. 203-205.
- 2 Arthur Rimbaud, "The Letter of the Seer," Arthur Rimbaud to Paul Demeny, May 15, 1871, in Lettre Du Voyant and Other Writings, trans. and ed. J.J. Loe (UK: Moonlight Books, 2017).



1 Molecular Typography Laboratory:
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2 Tree of Life, Bell and Pomegranate, 1708; Gross Family Collection, Tel Aviv



3 Test No. G_006: Gendered continuum

his own which he called *Va'ad*.³ From the very beginning, this choice of the square Assyrian script, rather than the ancient Hebrew script or a cursive type, enabled the project to proceed step by step, in a process akin to the use of building blocks or rods, which Franco calls "atoms."

In Franco's project, the Molecular Typography Laboratory (2019–23), one exploration leads to another on the same theme, or to a different theme, or gives rise to a new research subject, which suggests a new way of thinking. In a sense, it is a game: an ordered set of rules that allows for unbounded creativity. Let us delineate the "rules of the game" established by Franco: the first premise is that the letters of the Hebrew alphabet have molecular and

3 See Batia Carmiel, Edna Meir-Meril and Alec Mishory, Tile-Adorned City: Bezalel Ceramic Tile Decoration on Tel Aviv-Building Facades, 1923-1929 (exh. cat., Tel Aviv: Eretz Israel Museum, 1996); Batsheva Goldman-Ida, Ze'ev Raban: A Hebrew Symbolist (exh. cat., Tel Aviv Museum of Art, 2001), Hebrew with English summary, p. 152, ill. 201. electromagnetic properties. Eleven sections constitute the parameters of the study and summarize the results of the laboratory research, organized in a way similar to the Periodic Table. The project consists of more than 150 investigations, which Franco refers to as "tests." These "tests" explore subjects such as foundations, language, gender, formula, weight, 3D, gravitation, generative research, color, word play, type and image. The sections are presented in a flow chart of circles, which recall the configuration of the "Sefirot" (spheres)^{figs. 1-2} in the Kabbalah.⁴ Each letter is composed of a combination of six atoms of different sizes, which Franco designed based on a square grid, and tagged with the Latin letters D, E, I, J, K, V. In Franco's experiment, it was determined that the atom K only rotates on an X axis, while all other atoms rotate on both axes, X and Y. As a result, letters including a rotated atom K cannot connect to other

4 See https://ilanot.org

letters, leading to a division into two groups of letters — the "blue" letters and the "orange" letters — which cannot function together. This limitation was exploited as a way to remove words that include the orange letters from language, and thus to introduce Constrained Writing, used by the OuLiPo Group. 5 At a later stage, Franco decided to circumvent this problem by inverting the orange letters as if in a mirror, thus allowing the two sets of letters to coexist. In the chapter concerned with the theme of "gender," Franco decided to call the blue letters "binary" and the orange letters "non-binary," thus allowing for an evaluation of letters on a gendered continuum. fig. 3

Rabbi Adin Steinsalz, who also studied mathematics, physics and chemistry, ties the notion of the sacred to values such as truth, honesty, fairness, morality and even beauty. For him, the concept of the "holy" is comparable to the noble element in chemistry, which does not form compounds with other elements. Steinsalz built on the mathematical insight that the correct formula is always also an elegant one. Hence, he claims that values such as truth share an affinity with beauty. Franco, I believe, has sought such elegance, so that his project has become, for him, a form of truth.

- 5 OuLiPo, the initials of Ouvroir de littérature potentielle (Workshop of Potential Literature), was a group of mostly French writers and mathematicians (established 1960), which sought to create new literary structures and models by imposing various constraints and algorithms. The members of this group included, among others, Raymond Queneau, Georges Perec, Italo Calvino, and Harry Mathews.
- 6 See Adin Steinsalz, "On Holiness and the Boundaries of Holiness," in The Boundaries of the Sacred in Society: Thought and Art, ed. Emily Bilsky and Avigdor Sha'anan (Jerusalem: The Israel Museum, 2003), pp. 18-29.



4 Emmett Williams, Meditation No.3, 1958

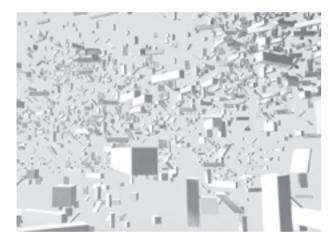
Are we still in need of Walter Benjamin's thesis in order to differentiate between the original and the copy? In contrast to the Dada movement, and to certain Kabbalistic frameworks, Franco's *Molecular Typography Laboratory* does not strive to undermine language or overcome the limits of reason. On the contrary, the project's aim seems to be the expression of sentiment in a new way. In this sense, it shares much with sound poetry fig. 4 and with the concrete poetry of the mid-20th century: "Sound poetry should be understood as analogous to pattern poetry ... There is less a drive toward the abolition of the word than an attempt to actualize its plastic potential."

The Lettrists and their successors in the OuLiPo group of the 1950s and 1960s significantly impacted the sound poets; another source of inspiration was the Symbolist poets of the 19th century, including Rimbaud, who sought to apply rules to madness and ascribe

7 Jed Rasula and Steve McCaffery, Imagining Language (Cambridge, MA: MIT Press, 2001), p. 94.



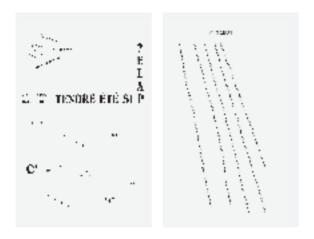
5 Stéphane Mallarmé, *Un coup de dés jamais n'abolira le hasard* (A Throw of Dice Will Never Abolish Chance), 1914



7 Test No. 3D_008: Microscopic view 1, atoms and letters

colors to letters, or Stéphane Mallarmé, whose poem "A Throw of Dice Will Never Abolish Chance" (1897, first published in book form in 1914) promoted the use of a unique typography and a visual approach to writing, fig. 5 which was followed by poets and artists such as Guillaume Apollinaire fig. 6 or Marcel Broodthaers.

The letters in Franco's project are thus distinguished by a formula that concerns the number and weight of the "atoms" that make up each letter, and which are seemingly endowed with an electromagnetic force. Is it possible that in such a pseudo-scientific experiment, the representation of reality by



6 Guillaume Appollinaire, pages from Calligrammes: Poèmes de la paix et de la guerre (Calligrams: Poems of Peace and War), 1918



Test No. 3D_009: Microscopic view 2, textual structure of words

arbitrary means can yield results commensurate with reality itself? In striving to create a new reality, Franco came up with an algorithm aimed at animating the letters, moving them in a three-dimensional universe of their own. figs. 7-8 This reminds one of the gaming platform of Minecraft, which allows for the construction of an entire world out of the building blocks that compose it, much like Franco's atoms.

Would such a project function similarly if applied to a language other than Hebrew? In the history of Christian and Jewish Kabbalah, the Hebrew language is considered unique.



9 Test No. F_037: Typeface Rounded Molecule 1

During the Renaissance, Hebrew acquired the status of a Classical language, alongside Greek and Latin. The Humanist Giovanni Pico della Mirandola (1463–1494) wrote: "If a first, and not accidental language, exists, it is clear ... that it is Hebrew." This means that rather than making conventional use of words to describe reality, the Hebrew language carries a direct impression of reality.

The Polish Humanist Jan Potocki (1761–1815) gives an accurate description of the core concepts underlying the linguistic mysticism of Kabbalah and the power of letters: "In Hebrew, every letter is a number, every word a learned combination of signs, every phrase a terrible formula, which, when correctly pronounced with all the appropriate aspirates and

stresses, could cause mountains to crumble and rivers to dry up ... Words strike the air and the mind; they act on the senses and on the soul. Although you are not initiates, you can easily grasp that they are the true intermediaries between matter and every order of intelligence.⁹

Franco's table of contents features
11 interconnected circles, which recall the configuration of the ten Kabbalistic spheres.
Similarly, at a certain point in the course of his laboratory research, Franco experimented with rounding the form of the atoms, in a random manner, from square to circle. fig. 9 Marking small circles at the top of letters is a practice that has a long history in mystical writing and in the Kabbalah, beginning with the Greek charaktères. 10

In the Renaissance, Hebrew texts were sometimes incorporated into altarpieces and manuscripts by Giotto, Fra Angelico, Mantegna, Michelangelo, Raphael, and others. When such original texts were not available, Renaissance artists took to using truncated Hebrew letters. These "pseudoscripts" resembled Latin, Greek, Hebrew, or Arabic letters, but had no discernible semantic content. They were generally used as

- 9 Jan Potocki, "The Ninth Day: The Cabbalist's Story," The Manuscript Found in Saragossa, 1805-1815 (London: Penguin, 1995), pp. 102, 211-212.
- 10 See Gideon Bohak, "The Charaktêres in Ancient and Medieval Jewish Magic," Acta Classica Universitatis Scientiarum Debreceniensis, 47 (August 2020), pp. 25-44. In the Mishnaic and Talmudic period, from the third to the sixth century CE, they were used to indicate the name of God on parchment scrolls bearing the verse from Deuteronomy 6:4, the Shema Israel. Initially referred to as "angel writing," this script evolved in Kabbalistic circles into three small roundlets per letter, called "eye script" in the Lurianic Kabbalah espoused by Hayyim Vital. See Batsheva Goldman-Ida, Hasidic Art and the Kabbalah (Leiden-Boston, Brill, 2018), pp. 28-31.

⁸ Giovanni Pico della Mirandola, Oration on the Dignity of Man (Cambridge University Press, 2013), conclusion LXXX; see also Umberto Eco, The Search for the Perfect Language (Oxford: Blackwell, 1995).



10 Andrea Mantegna, Minerva Expelling the Vices from the Garden of Virtue (detail), ca. 1500-1502, oil on canvas, 159×192 cm

decorative elements on objects and costumes in religious scenes. fig. 10 According to Alexander Nagel, Renaissance artists "willfully dismantled and recomposed the medium of language. Their placement on hems and sleeves suggested that the scripts have an oral quality, that they are communications ... They signal a potentiality that is lost sight of in normal, conventional language ... They are unreadable to us, and yet they are being presented to us ... across the gap of illegibility."

Ramon Llull (1232–1315), best known for his opus *Ars Magna* (The Great Art, 1305), illustrated his work with mnemonic circles or wheels (*volvelles*), and is considered to be a forerunner of computer science. Scholars believe that Llull's use of circular diagrams of letters in his illustrations relied on an Arab prototype, the *zairja*, similar to an astrolabe, which was used to assign number values to letters as a tool of divination. Umberto Eco associates



Abulafia (1240-1292), a contemporary of Llull, was described by Pico Della Mirandola as ars combinatoria (the art of combination). Abulafia became expert in the deconstruction of biblical texts, recombining the letters to form new meanings. Following Nachmanides (1194-1270), who had stated in his commentary on Genesis 1:1 that the entire Bible is a matrix of a single divine name, Abulafia developed a form of meditation based on the permutation of the letters of God's name. The leading rabbinic figure in Spain, the Rashba (Solomon ben Abraham ibn Adret, 1235-1310), banned Abulafia's writings for interpreting the Scriptures by means of gematria (the numerical computation of letters); the ban was enforced for more than 700 years, and his many works were republished only recently. However, his thinking was preserved



11 Ramon Llull, Diagram No. 1 from the book Ars Magna. 1305

and disseminated through Pico and Christian Kabbalah, exerting a strong impact on the Dada and Lettrist groups, as well as on contemporary Kabbalah. According to lan Almond, Deconstruction actually restores a medieval sense of infinity to the texts ... by emphasizing the endless range of contexts a text can be read in."

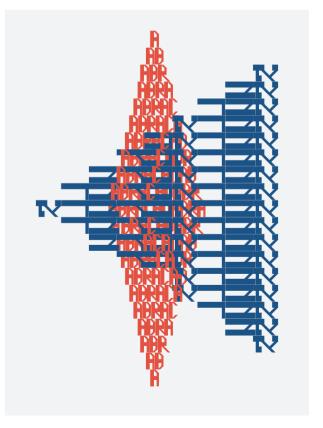
The study of Kabbalah was of great interest to the Lettrists. Gabriel Pomerand (1926–1972) wrote a reminder to himself to order Lazare Lenain's La Science cabalistique ou l'Art de connaître les bons Génies (1823) from the Bibliothèque nationale in Paris. Lenain's study of Christian Kabbalah delineates the 72-letter name of God as related to three verses in Exodus 14:19–21 describing the splitting of the Red Sea. The well-known anagram Abracadabra is actually a combination of letters, whereupon a letter is left out of each subsequent line, leading to a pyramid shape. figs. 12-13

According to the Lettrist poet Isadore Isou, meaning in Lettrist poetry "flickers" because "the abstracted letters have become quantitative values, losing the concept first attached to them." Isou used the terms "amplific" and "chiseling" to distinguish between two polarities in art and poetics: the construction and deconstruction of form. When the letters lose their semantic meaning, they become a visual, graphic force. For the

- 13 See Batsheva Goldman-Ida, Alchemy of Words:
 Abraham Abulafia, Dada, Lettrism (Tel Aviv:
 Tel Aviv Museum of Art, 2016), 198, n. 73; 195,
 nn. 85-86. See also idem, "Kabbalah in Art and
 Architecture," Oxford Research Encyclopedia of
 Religion, published online August 23, 2023.
- 14 Ian Almond, "The Meaning of Infinity in Sufi and Deconstructive Hermeneutics: When is an Empty Text an Infinite One?" Journal of the American Academy of Religion 72:1 (March 2004), p. 97.
- 15 Sami Sjöberg, The Vanguard Messiah: Lettrism between Jewish Mysticism and the Avant-Garde (Berlin and Boston: Walter de Gruyter, 2015), p. 63.



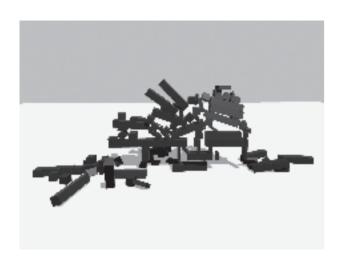
12 Abracadabra, diagram from T. Schrire, Hebrew Amulets,
Their Decipherment and Interpretation (London:
Routledge and Kegan Paul. 1966). p. 59



13 Test. No. P_020: "Abracadabra"

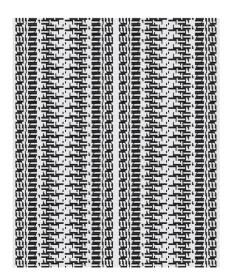
¹¹ Alexander Nagel, "Twenty-five Notes on Pseudoscript in Italian Art," *RES: Anthropology* and Aesthetics, 59-60 (Spring-Autumn 2011), pp. 237-238.

¹² Umberto Eco, The Open Work, trans. Anna Coancogni (Cambridge, MA: Harvard University Press, 1989), pp. 1-23.



14 Test No. GR 005: Activating the force of gravity

15 Test No. P_013: Partial panagrams



16 Test No. P_015: Noam Dovev:
Palindrome poem by Noam Dovev
(detail)

Dadaists, Surrealists, and Lettrists, "accidentality [chance] and, even more, automatism facilitated the challenging of inherited assumptions of style and habits of the hand, and suggested the possibility of rendering experience dredged more deeply from the unconscious than prevailing artmaking practices seemed to allow."16 John Cage, for instance, chose another way of selecting random letters by browsing the I-Ching in his work Not Wanting to Say Anything About Marcel [Duchamp] (1969). 17 A similar visual effect is evident in the Kabbalistic manuscripts printed in Mantua during the **Renaissance: "The pages of Kabbalistic texts** are often broken by lines in movement, by sentences curving and bending or consonant sequences reshuffled on the page ... The subversion of the normal word order underlined the non-semantic value of the consonants."18

A playful spirit is felt throughout Franco's project, in which the stringent rules provide a framework for artistic expression. Then the typography takes over. The entering of a time and date stamp for each test, not only reflects scientific notation but also enables the reader to view the typography as an art form in the sense of Gaston Bachelard, who speaks of the "wholly unexpected nature of the new image" at the cusp of the moment, "in a state of emergence, in which life becomes manifest through its vivacity." Bachelard adds: "The poetic image is an emergence from language, it is always



17 Test No. P_010: Palindrome poem by Noam Dovev



18 Test No. P_008: Palindrome poem by Noam Dovev

a little above the language of signification."¹⁹ In this respect, Franco's project is a work of poetry.

Moreover, when the various poetry forms – pangrams, anagrams, and palindromes – are arrayed on the page, the visual impact is truly amazing. In one of Franco's "tests," the result looks like a series of ink blots or cutout shapes. fig. 14 In another "test," the letters seem to dissolve before our eyes, turned at an angle, unreadable and reduced to signs. fig. 15 Still other works become ladders and scaffolding, while the black atoms composing the letters become stepping stones or windows in a building. We marvel not at how it was done, but at what it is, what it has become. $^{\rm fig.\,16}$

In Test No. P_010 from 2020, a poem by Noam Dovev takes on a graphic shape, so that one feels no inclination to read it, but only to view it, so that its visual observation takes precedence over its reading. Another poem by Dovev reads like a winding stream down a mountain. These pages call to mind the Kabbalistic use of letters, as well as that of the



19 Test No. P_150: Poster, 2021, digital print on paper, 128 × 89.5 cm

Lettrists. Once the semantic meaning of the letters is no longer relevant, one can concentrate on experiencing the groups of letters and words visually and viscerally, as one would a work of art. In Test No. P_150, a palindrome consists of 3D rotated versions of the molecular typeface. The lines of type literally soar, expanding in an almost organic manner within a confined space. The semblance of reality appears to take on a life of its own. fig. 19

Close to this project is El Lissitzky's *Proun* – the Russian initials of "Project for the Affirmation of the New," fueled by the Bolshevik Revolution in 1917, whose letters seem to soar into space. fig. 21 The *Prouns* created by Lissitzky from 1919 to 1927 radiate optimism,

¹⁶ William S. Rubin, Dada, Surrealism, and Their Heritage (New York: The Museum of Modern Art, 1968), p. 41.

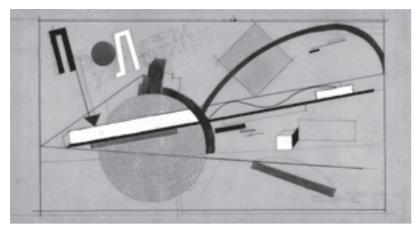
¹⁷ John Cage, Not Wanting to Say Anything About Marcel (Cincinnati: OH: Eye Editions, 1969), collection of the Tel Aviv Museum of Art, gift of Vera and Arturo Schwarz, Milan (1998).

¹⁸ Giulio Busi, Mantova e la qabbalah (Geneva-Milan: Skira, 2001), p. 57; idem, La Qabbalah Visiva (Turin: Einaudi, 2005).

¹⁹ Gaston Bachelard, "Introduction," The Poetics of Space, trans. Maria Jolas (Boston: Beacon Press, 1972), pp. xiii; xxiii.



20 Test No. P_156 (Lissitzky): poster, 2021, digital print on paper, 128 × 89.5 cm



21 El Lissitzky, *Proun*, 1920, gouache, ink, silver paint and graphite on paper, 13.6 × 26 cm, collection of The Israel Museum. Jerusalem

and reflect Constructivism and the Suprematism of Kazimir Malevich. Lissitzky's importance for Franco's project lies in his use of different trajectories of objects in space, seen from various angles. As Lissitzky wrote, "we saw that the surface of the *Proun* ceases to be a picture and turns into a structure round which we must circle, looking at it from all sides, peering down from above, investigating from below.²⁰ Of interest is the series of posters Franco produced in 2021 as part of the *Molecular Typography Laboratory* to commemorate the 130th anniversary of Lissitzky's birth. fig. 20

Thanks to computer technology, the 3D quality of this study animates the letters in a manner that calls to mind the role of automatism as a creative catalyst for the Surrealists and the artists inspired by them. Yet in contrast

to the legacy of his predecessors, Franco's project follows the associate patterns of rhizomatic thought, ²¹ in an organic process that has in fact only just begun.

Batsheva Goldman-Ida is a graduate of the Parsons School of Design, New York, and holds a doctorate from the Hebrew University of Jerusalem. She is a curator and scholar whose research focuses on the interface of Kabbalah and art and on the history of the Bezalel School of Arts and Crafts. Her publications include, among others, Hasidic Art and the Kabbalah, Ze'ev Raban: Hebrew Symbolist, and the entry on Kabbalah in art and architecture in the Oxford Encyclopedia of Religion.

P SHIRT INTERIIFU: -DO ROLL BELIEVE ROLL PUSSESS THE RIGHT TU DO ANYTHING AT ALL IN THE HEBREU LANGUAGE -UNTIL PURTHER NUTTING

²⁰ Sophie Lissitzky-Kuppers, El Lissitzky, Life, Letters, Texts (New York: New York Graphic Society, 1968), p. 343.

²¹ Gilles Deleuze and Félix Guattari, A Thousand Plateaus, trans. Brian Massumi (London and New York: Continuum, 2004).