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From data to graphs: An aesthetic narrative by Deniz Cem Önduygu*

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Abstract

The production of technology and information has increased the interrelatedness of art and design with other disciplines. This transformation, particularly under the influence of digital culture, has expanded the conceptual boundaries of art and enabled creative processes to take on a multi-layered structure. In this context, art has taken on an eclectic structure, and with the inclusion of data in the aesthetic creation process, graphic formations have become an artistic narrative. The fact that data has become usable as an aesthetic material has offered artists new possibilities, both technical and conceptual, for their forms of expression. The study analyzes the work of artist-designer Deniz Cem Önduygu, who makes graphics and tables interactive, creating new semantic experiences by visualizing information through data. Önduygu's work occupies a unique position within contemporary data art practices, particularly in the way he establishes a relationship between data sets and narrative structures. The artist, who produces experimental works with data art, systematically and interpretively examines the formal aspects of his productions, which are created by bringing together his conclusions from sound analyses, photographs, and many other works obtained from data sources such as biology, philosophy, and television programs. This study is limited to Önduygu's works produced from data, which bring innovation to data visualization graphics. National and international theses, articles, books, and various websites were used as data collection tools. This study aims to analyze how the artist-designer visualizes data as a narrative tool and the role of visual perception in making sense of information. Furthermore, it aims to reveal the place and importance of data graphics in art and design, defining the unique contributions of different disciplines and data sources to the field. Thus, the research aims to make visible the position of data-driven creative practices in contemporary art and to contribute to theoretical discussions in this field.
Keywords: Deniz Cem Önduygu, data visualization, data-driven creation, digital culture, art and design

Extended Abstract

With the accelerating impact of digitalization, the fields of art and design have undergone significant conceptual and structural transformations. The rapid development of technology and information has deepened the interaction between art and other disciplines, and data visualization has become a crucial component of contemporary artistic practice. This new aesthetic understanding allows data to be transformed into artistic narratives through graphic configurations. As a result, art has evolved beyond a purely visual mode of expression into an interdisciplinary platform that incorporates knowledge, methodology, and conceptual depth. Today, artmaking engages with fields such as psychology, technology, biology, information sciences, and sociology, generating meaning through a complex web of intellectual interactions. This transformation has contributed to the emergence of a contemporary expressive language in which both visual qualities and conceptual layers play an essential role. Contemporary artists and designers now use interdisciplinary methods and develop data-driven modes of art. Interactive graphic designs create a direct exchange between viewer and artwork, fostering experience-centered practices. Adding data to graphics adds new meaning, both aesthetically and intellectually. Data serves not only as information but also as material for aesthetics. This move expands what data visualization can achieve in artistic expression and narrative.

In this study, the works of artist-designer Deniz Cem Önduygu, known for his experimental data visualization, are examined. Önduygu's methodology turns data into a graphic language where visual form and content unite. He collects and analyzes data from fields such as physics, psychology, health sciences, social sciences, photography, and illustration, and translates them into complex graphics. His approach aims to understand the self visually and to foster interactive communication between artwork and viewer. This is clear in works like *Ne Olduğunuzu Öğrenin [Find Out Who You Are]* and *Graphagos,* where data-driven graphics create an experience that invites viewers to engage with the narrative.

The research used qualitative methods. Document analysis was the main technique. Qualitative research explores events and phenomena in their natural context for a holistic understanding. Exhibition catalogues, artist interviews, design booklets, and relevant scholarly sources were examined to analyze Önduygu's artistic practice. A systematic approach was used to study the formal elements of the artist's works -symbols, graphical structures, typographic forms, colors, and compositional arrangements- to uncover their conceptual foundations. This method aimed to reveal how Önduygu

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constructs a graphic narrative where data serves as both content and form.

The findings indicate that Deniz Cem Önduygu does not use data merely as a means of representation; instead, he employs it as a core component of his artistic language. By transforming data into graphic forms, the artist creates a dialogue between the individual and society, knowledge and aesthetics, and analysis and visual interpretation. His works demonstrate a strong interdisciplinary character, intertwining data art, graphic design, scientific visualization, and experimental design practices. This reveals that Önduygu's work operates not only on an aesthetic level but also within a conceptual domain that encourages intellectual inquiry. In this sense, Önduygu's artistic production highlights the potential of data visualization to cultivate new artistic dynamics and to open new spaces for narrative experimentation.

In conclusion, this study provides a comprehensive examination of contemporary art practices in which data functions as an artistic material. Önduygu's works illustrate how data can be transformed into an aesthetic and conceptual narrative through graphic design processes, offering valuable insight into the evolving relationship between art, design, and technology. By situating Önduygu's production within the broader framework of interdisciplinary artistic practice, this research contributes to the understanding of how data-driven design approaches redefine the expressive possibilities of contemporary art. Ultimately, the study aims to enhance awareness of data visualization practices within the art and design fields and to shed light on the conceptual and aesthetic dimensions of Deniz Cem Önduygu's artistic methodology.

Introduction

The rapid technological development in the 21st century has diversified production methods and deepened the interaction among art, design, and other fields. In particular, post-digitalization data has gained a new language of expression through graphic design, enriching design by integrating with other disciplines and giving rise to a new aesthetic understanding through the graphic use of data. This transformation has enabled art to evolve not only into a visual means of expression but also into an interdisciplinary platform encompassing knowledge and scope. In this process, artists seeking new means of expression have created new artistic dynamics through graphic representations that incorporate digital data into the aesthetic creation process.

Today, it is evident that many artists and designers are turning to interdisciplinary approaches and continuing their work in collaboration with different fields such as psychology, technology, and science. This new perspective in art practice has also paved the way for the formation of an interactive structure in art and design. Furthermore, the blending of art, design, and technology has supported the emergence of new forms that integrate both individual and social life. Thus, individual production has created a new language, a contemporary form of expression that focuses not only on visuality but also on conceptual depth.

Methodology

This research used qualitative methods. Qualitative research is defined as "research that employs qualitative data collection methods such as observation, interviews, and document analysis, and follows a qualitative process aimed at presenting perceptions and events realistically and holistically within their natural environment" (Yıldırım and Şimşek, 2000, p. 19) and focuses on "determining the causes of events and behaviors that have occurred" (Büyüköztürk, 2008, p. 22). In this study, works created as data visualization tools are examined through the works of Deniz Cem Önduygu; the conceptual framework of the subject, the explanation of data visualization and graphic design, and the place of data visualization in graphic design are discussed through selected sample works.

Data visualization and graphic design concepts

In the 21st century, data volume has increased rapidly, and understandably, presenting this data has become important. In this context, data visualization has

emerged as a fundamental tool that facilitates access to information and makes complex structures understandable. When combined with graphic design and art disciplines, data is presented in both an aesthetic and functional form. Thus, information transfer becomes more effective and accessible. According to Işık (2024);

> "Data visualization is considered an important element of data analysis, and it is thought that converting information into graphical forms allows people to grasp data more easily. It is stated that visual presentations facilitate the understanding of complex information and reveal patterns, trends, and relationships that numbers alone would struggle to convey. This allows insights derived from data to be communicated in a clearer and more concise manner to different audiences, regardless of their level of expertise."

The intersection of art and design has given rise to new forms of expression in contemporary art. The visual representation of data provides a powerful narrative foundation for both academic and artistic production, and data-driven graphics are now indispensable. In this context, it is evident that technological transformation in the Post-Digital Age has changed the patterns of knowledge production, strengthening the interaction between the disciplines of art and design. It is clear that during this period, art has transformed into a more flexible and dynamic structure, establishing relationships with different disciplines and experimenting with new forms of expression, significantly increasing its impact through the opportunities provided by digitalization. As Bora defines it (2023, p. 1);

> "Data visualizations are considered one of the most effective ways to organize information and convey it to a wide audience. In particular, the processing of dense data sets through software or the presentation of more limited data in infographic form reveals different levels of this application. In such visualization processes, the primary goal is to enable data to be grasped more quickly and clearly, hence the use of specific visual coding methods."

According to Kuzu (2022), graphic design has a multifaceted nature due to its communication-based structure and is in constant interaction with the concept of culture. One of the fundamental functions of the discipline is to adapt to the social and cultural structure in which it exists, while also producing the visual meanings required by the era. Thanks to this multifaceted structure, graphic design acquires a competence that can permeate different areas of art and culture. As Akman and Uçar also point out, "today, the concept of graphic design encompasses many subheadings. (...) [These include] interface design, book (cover) design, medical illustration, exhibition design, game and character design, environmental graphic design, motion graphic design, wayfinding design, information graphic design, and interactive graphic design" (2019, p. 11).

As a result of 21st-century digital developments, the ways digital materials are used have changed and evolved to meet individuals' needs. In this context, it can be seen that technology has become a social element based on digital algorithms, one that is growing and capable of renewal. At this stage of digitalization, it is clear that adapting to technology is an inevitable necessity. In this sense, the works of Deniz Cem Önduygu, which form the main axis of the research, show that not only are graphics and tables made interactive, but also that the narrative is presented to the audience by combining data with graphics. The new perspectives and orientations in the disciplines of art and design in the 21st century, as technology rapidly develops and transforms, are clearly evident in Önduygu's works.

Deniz Cem Önduygu and an analysis of his works

Deniz Cem Önduygu graduated from Istanbul Technical University's Industrial Product Design Department in 2008. He received his master's degree in visual arts communication design from Sabancı University in 2010 with the Evolutionary Graphic Design program *Graphagos*. Since 2009, he has been working on editorial

design and identity design as a founding partner of "Fevkalade". He is also one of the three founding members of Çilek Ağacı, an award-winning multidisciplinary collective that applies data analysis and information design methods to cases in different fields such as sociology, politics, and popular culture (Önduygu, n.d.; Contemporary Arts, n.d.). In his personal work, he focuses on the visual organization and communication of scientific and philosophical knowledge, as well as popular and practical topics. Shaping his work around his areas of interest, Önduygu focuses on topics such as the philosophy of biology, memetics, insects, neuropsychology, the philosophy of mind, and trash TV (Önduygu, n.d.; Hemzemin, n.d.).

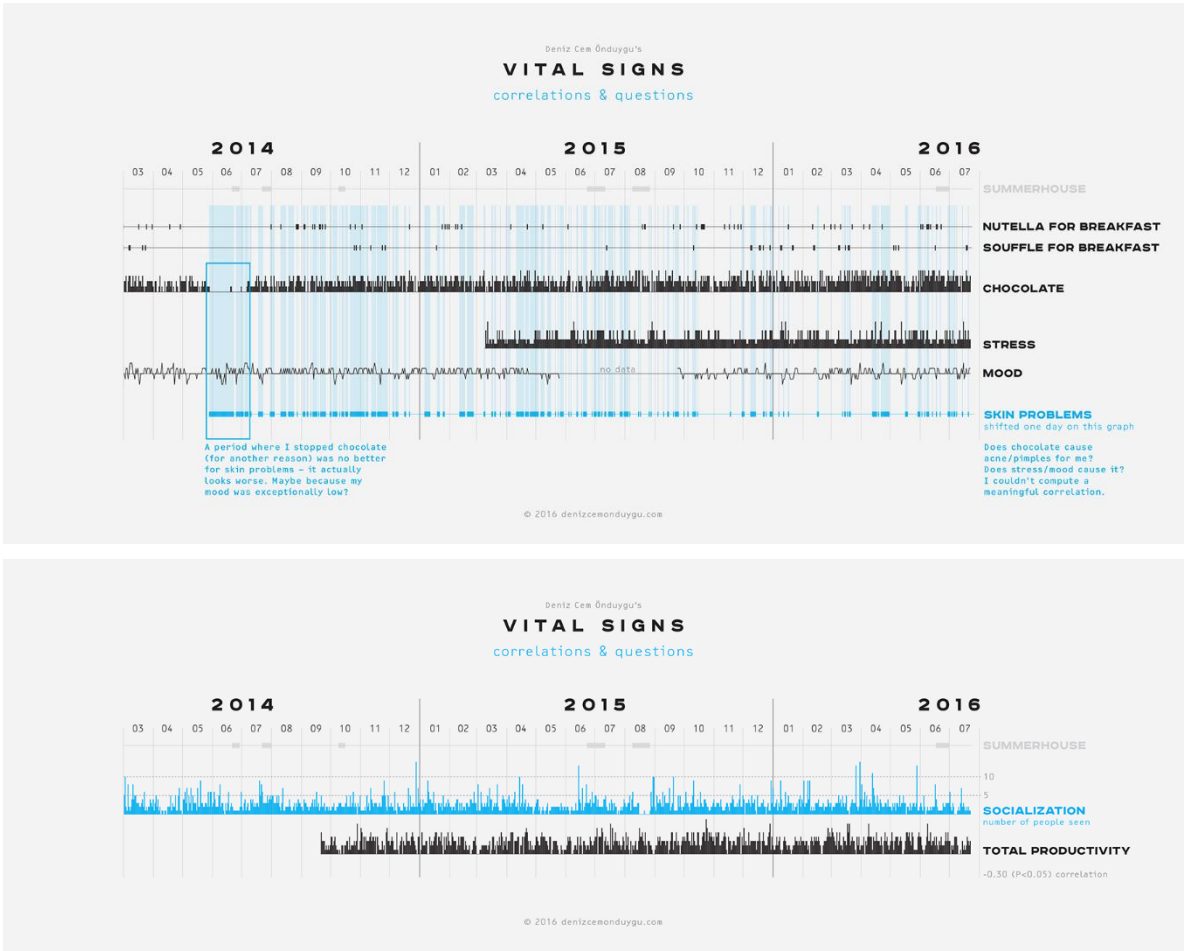


Figure 1. Deniz Cem Önduygu, Vital Signs, 2014- ongoing

Deniz Cem Önduygu's work titled *Vital Signs* (Figure 1) is an important example in this regard. On his own website, the artist-designer has included the following words about this work and its visuals:

> "What you see is some of the daily data I've collected during 8 years of my life (2,863 days between 01/03/2014 and 01/01/2022), charted as basically as possible in order to allow global readings and comparisons. (A nice method is just to scroll up and down with the mouse cursor pointing to the time of interest.) I continue to log my data, but haven't updated the visualization since 2022. I also have a lot more data on medical issues, people I meet, and daily activities, which I chose not to show here. How do I collect all this data? I don't use motion/sleep/... trackers. I'm not comfortable with wearables and smartphones. All it takes is a few minutes of retrospective question answering on Reporter (on my iPad) when I wake up and go to bed every day (Last.fm for songs). With this method, whereas a few scalar topics have well-defined scales in terms of numbers (sleep hours, medicine, socialization, songs listened), most of them (stress,

> work, physical activity, etc.) are logged with approximate values defined in my head, such as "0: none, 1: very few, 2: normal, ...". I'm not interested in the absolute values of things; I want to see patterns of increase/decrease, and the correlations between topics. The extra images with blue markings (mostly from older versions, which I plan to make more of) offer explorations of some correlations – in addition to the obvious causal effect of going to the summerhouse seen in the main layout with the gray columns – sometimes using extra topics not shown there. I calculate correlation coefficients when my capabilities allow. (My proactive efforts to find the exact combination of factors that determines my mood continue)." (Önduygu, 2025).

Using graphics, tables, and interactive online tools to make complex industry concepts more accessible, Önduygu's company data study reveals the key aspects of owning a company in Turkey. He states that this study, initially developed to meet his personal needs, has evolved into a valuable resource for many people over time. It is stated that the cultural elements of his productions titled *This Style Is Mine* and *Anonymous Public Data* are presented in an entertaining language, while the Vital Sings series originated from his habit of recording every step of his life as data over the years (Serim, 2018).

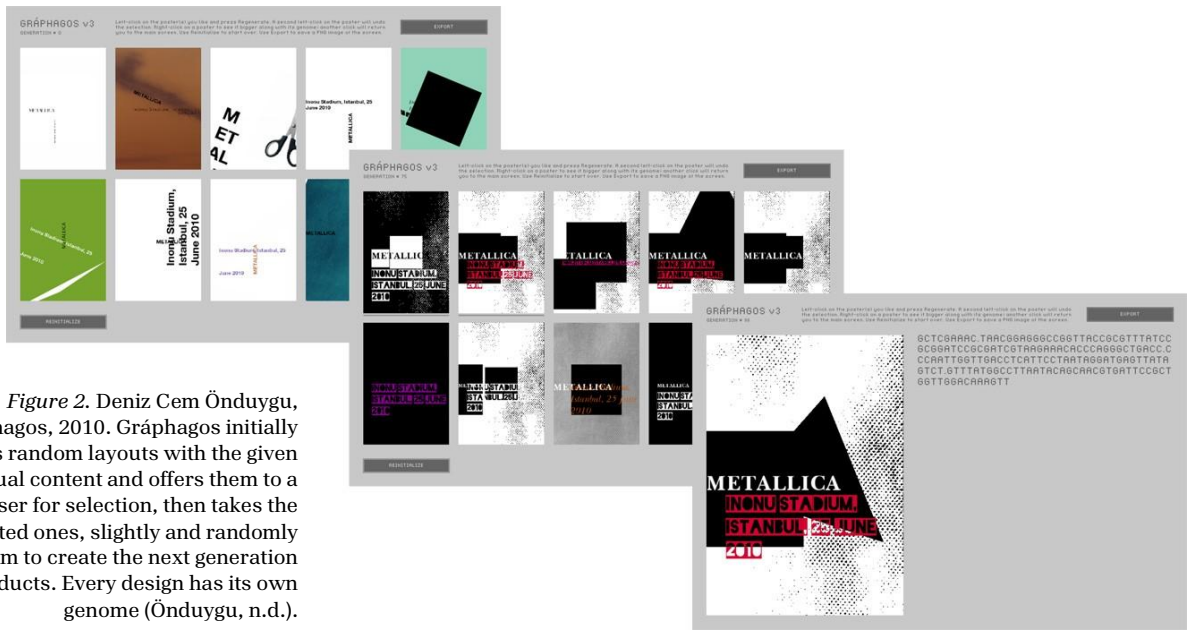


Figure 2. Deniz Cem Önduygu, Graphagos, 2010. Gráphagos initially generates random layouts with the given textual content and offers them to a human user for selection, then takes the selected ones, slightly and randomly change them to create the next generation of products. Every design has its own genome (Önduygu, n.d.).

Graphagos, a program in which populations of graphic design products (each possessing a genome) evolve through user-applied selection (Figure 2), began as "an academic project primarily aimed at creating a detailed memetic framework for a designer's creative process" and ultimately revealed that it "could be used as a tool," presenting "a new process of creating graphic design simply by making selections" (Önduygu, 2025). The *Graphagos* project initially generates random arrangements from the provided textual content and presents them to the user for selection. These visuals, which serve as an interactive tool, allow the viewer to select what they want, even change it, and make random selections; this process ensures that the project's results are shaped by the viewer's preferences. Random arrangements can be made to create subsequent works. As part of the project, users can view graphics created from their selections on a separate page dedicated to user experience.

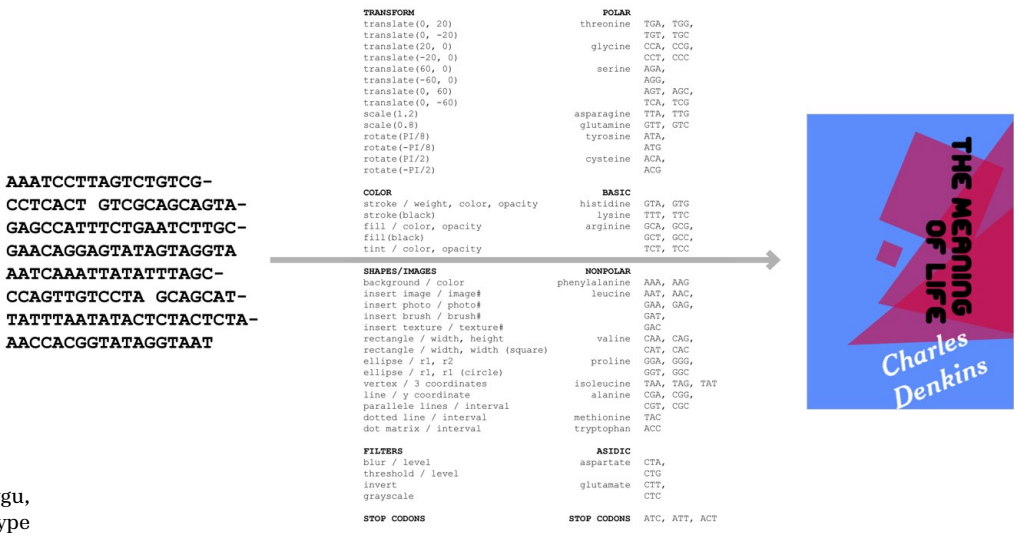


Figure 3. Deniz Cem Önduygu, The genotype-phenotype mapping in Gráphagos, 2010

Önduygu has developed an algorithm that extracts color codes from this design (Figure 3). According to the *Turkish Language Association (TDK),* an algorithm is a process for solving a problem or achieving a result in the fastest possible way by applying well-defined rules and operations step by step; it is also called the algorithmic method. Graphical forms, especially data visuals, not only make dense, complex information understandable through visual codes but also transform it into an artistic narrative tool. In various production examples ranging from infographic designs to digital installations, a direct relationship is established between the visualization of information and the aesthetic experience.

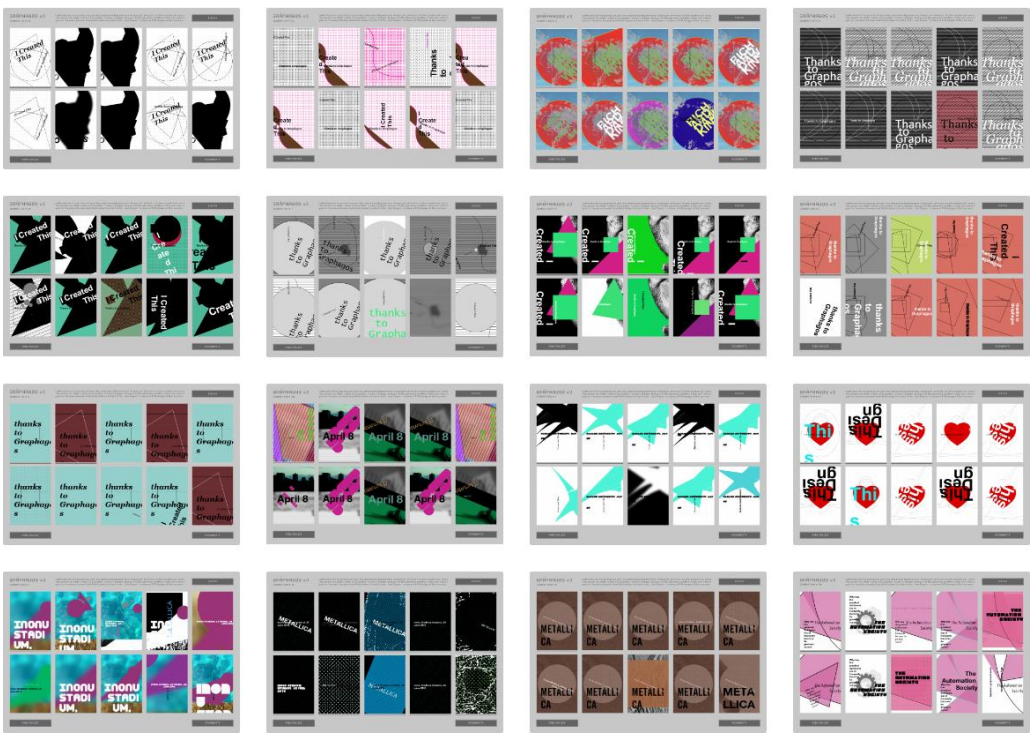


Figure 4. Deniz Cem Önduygu, Some generations created by Gráphagos, 2010

According to Bager Akbay, Önduygu expresses his thoughts through art, using visualization methods in his designs for *Graphagos* (Fugamundi, 2021). In this sense, it is possible to describe Önduygu's designs, which collect his own intellectual expressions and convert them into data, as a new way of expressing oneself, and this transfer takes place through data.

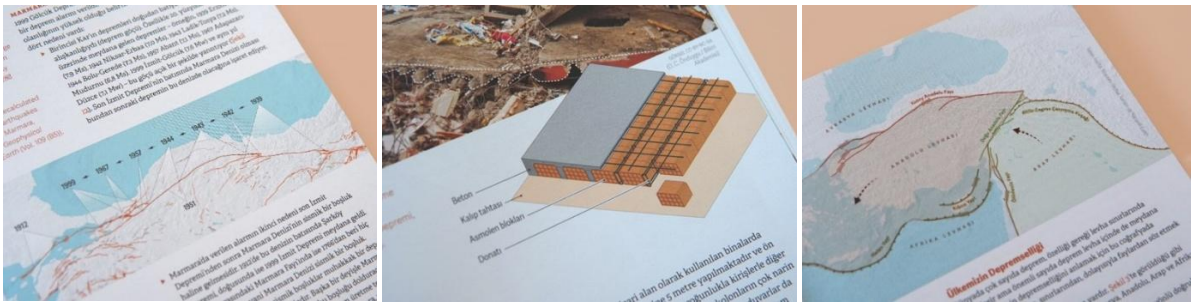


Figure 5. Deniz Cem Önduygu, Science Academy, Earthquake Series, Bilim Akademisi, 2024

Another work by the artist-designer, inspired by Turkey's earthquake-prone geological structure, is the Science Academy, Earthquake Series, which "highlights what can be done for an earthquake-resistant Turkey." In addition to overseeing the editorial processes for two books published by the Science Academy, the artist-designer also designed the information graphics for the Science Academy Earthquake Series, which presents scientific information based on expert opinions as graphical data (Figure 5). Works consisting of "data graphics; diagrams and illustrations that visualize physical or organizational structures and processes; and geographical representations that map earthquakes, plates, and faults" have facilitated the delivery of a scientific roadmap to the audience through data visualization. Therefore, contemporary art practices such as Data Art, by both utilizing the opportunities offered by technology and reinterpreting information through an aesthetic language, present unique narratives to the audience.

Figure 6. Deniz Cem Önduygu, History of Philosophy, 2014-ongoing

In another work titled *History of Philosophy*, it is known that Önduygu produced these works as a result of his conclusions, in the form of content, links, reading, and note-taking to help him while reading the history of philosophy (Figure 6). Önduygu, who also has a website dedicated to the project, states that his work, which is open to interactive use by the recipient, is "This is my ever-growing summary of the history of (Western) philosophy showing the positive/negative connections between some of the key ideas/arguments/statements of the philosophers." Emphasizing that it is a field of research that has been ongoing since 2014, the designer states that the project is not an "automatic text analysis project," but rather that "he needed to learn the history of philosophy in some way during his school years and could not keep it in his mind," and that it was created based on the idea that History of Philosophy would help him understand philosophy (Önduygu, 2025).

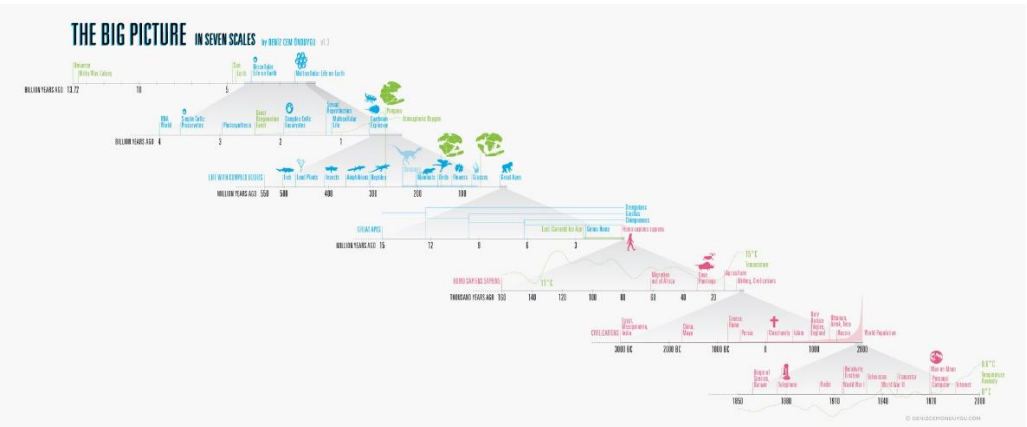
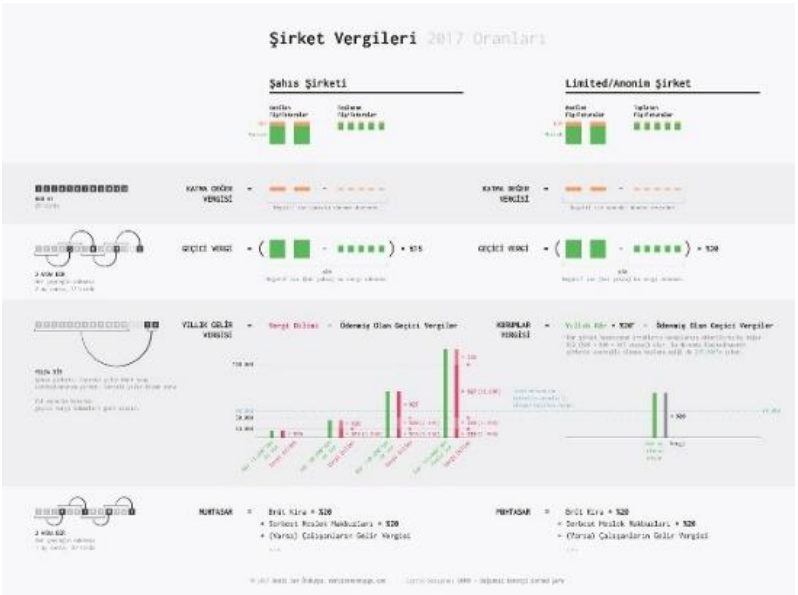


Figure 7. Deniz Cem Önduygu, The Big Picture in Seven Scales, 2012

The designer's work, *The Big Picture in Seven Scales*, is a design that "presents a summary of the universe, life on Earth, and the history of humanity within the same image shown across seven different time scales" (Figure 7). Önduygu expressed his intention in carrying out the project with the following words: "My main purpose with this thing is to give a sense of how tiny our time scales are compared to the larger scheme of things, in one look" and "Dates are of course approximate. If you think there are corrections to be made or very important things to add, please don't hesitate to contact me" (Önduygu, 2025). This assessment states that the representation's reconstruction has paved the way for the emergence of a raw structure in the visualization process. This raw structure serves not only to present data visually but also to produce knowledge and to make information transmission more understandable.

Figure 8. Deniz Cem Önduygu, Cinemicroscopy, 2012- 8a. The sternum of a yellow sac spider 8b. (My) human blood 8c. The hair of a stuffed toy duck 8d. A Cuban cigar label (oh, the irony)

Önduygu, who completed her graduate education in biology, has incorporated significant influences from this field into her work. The designer stated that she created the film posters for *Cinemicroscopy* (Figure 8), inspired by nature, using only "photographs taken with her own antique microscope." She stated that the photographs "were not altered in any way except for some minor color adjustments" and added explanations about what each image depicts on the posters (Önduygu, 2025). In one statement, he said, "While taking notes on the yellow spider, the designer noticed the similarity between the animal's sternum (breastbone) and the Facehugger Xenomorph in the movie Alien, and this idea came to mind." The thought, "Why don't I examine movie posters under my old trusty microscope?" led to the creation of the *Cinemicroscopy* series, demonstrating how thought transforms into image and image into design (Demirkılınç, 2018).



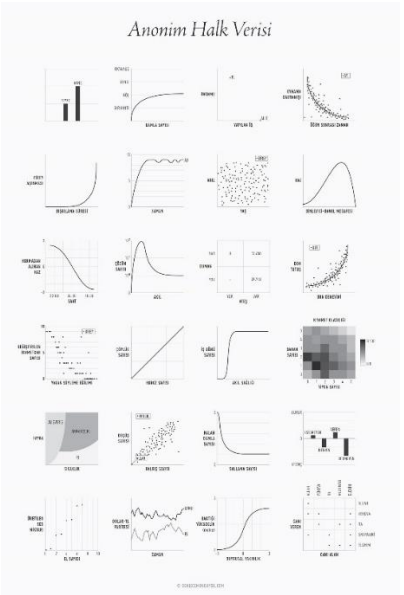


Figure 9. (Left) Deniz Cem Önduygu, Company Data, 2017

Figure 10. (Right) Deniz Cem Önduygu, Anonymous Public Data, 2014

In his work titled *Company Data* (Figure 9), Önduygu provides a visual explanation of "how individuals and capital (limited/anonymous) companies are taxed in Turkey based on 2018 rates." states that the data was transformed into a visual design as a result of "an effort to make it easier for individuals to learn how company taxation works and to follow the process, at a time when more and more people are choosing to work from home and many young people are setting up companies for their own innovative projects rather than getting a job in an organization" (Önduygu, 2025). In his work titled *Anonymous Public Data*, he translated proverbs into data, visualized the data, and asked viewers to analyze the proverbs by looking at the graphics (Figure 10). Within the scope of the design, Önduygu included proverbs such as "A mother is half an aunt," "Many a drop makes a lake," "Once your reputation is ruined, it never recovers," "A hungry bear doesn't play," "The drum sounds better from a distance," "Wisdom comes from experience, not age," "Every rooster crows in its own backyard," "One hand has nothing, two hands have something."

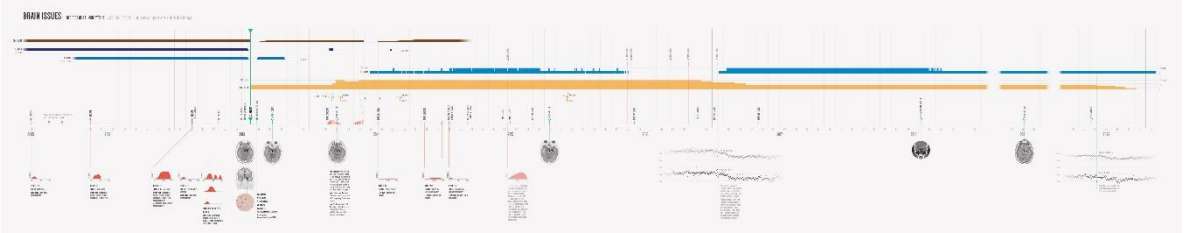


Figure 11. Deniz Cem Önduygu, Brain Issues, 2013-ongoing

His work titled *Brain Issues* is a data visualization project that Önduygu began after his tumor surgery in 2013 and continues to update regularly (Figure 11). Describing the work as "a regularly updated visualization of my medical history related to brain issues," the designer created a diagram showing her symptoms, medications, and medical tests/surgeries as data. She states that this visualization serves "(1) as a personal diary revealing correlations to help make medical/lifestyle decisions, (2) as a tool making my communication with my doctors much more efficient, and (3) as a case study to argue for the value of information visualization in clinical medicine" (Önduygu, 2025).

In the study titled *Hollywood Economics* (Figure 12), prepared for the Information Is Beautiful Awards data visualization competition held in 2012, a comprehensive dataset of Hollywood films completed between 2007 and 2011 is visualized at both the genre and film levels. Using two concentric circles to represent budget and global gross revenue, the study presents an analysis in which films are positioned on logarithmic axes according to the criteria of "sustainability" and "stability," thereby transforming the multidimensional structure of cinema data into a graphical language that allows for comparison and interpretation.

In his explanation of how to read the plot, Önduygu (2025) states:

> "For each element (film or genre), we visualize two values, budget and worldwide gross revenue, with two interlocking circles; the area of the lighter-colored circle represents revenue. In the main graph (individual films) and the supplementary graph (genre averages), these circles are plotted on an x-axis representing sustainability and a y-axis representing profitability. We calculate sustainability by dividing gross revenue by opening-weekend revenue, and profitability by dividing gross revenue by budget. These axes are logarithmically scaled to accommodate the wide range of values."

The design titled *Graphic Survey* consists of data from a survey conducted with the participation of 150 people. As part of the project, participants were asked to draw 9 different logos from memory without looking at any examples. The project website allows participants to filter by age, gender, and occupational group. The project is a personal visual perception study that investigates which logo details people remember best, which graphic elements they get wrong, which symbols they don't remember at all, and whether there is a pattern across these trends. Önduygu (2025) stated that the project, which is a personal research study, sought answers to the following questions:

-Which structures/parts/details are perceived and remembered by more people?

-Which graphic games are not understood at a semantic level?

-In asymmetrical structures, which left-right errors are people prone to make?

-Is there anything special about logos that people do not remember and leave blank?

-And are there demographic patterns in the answers to all questions?

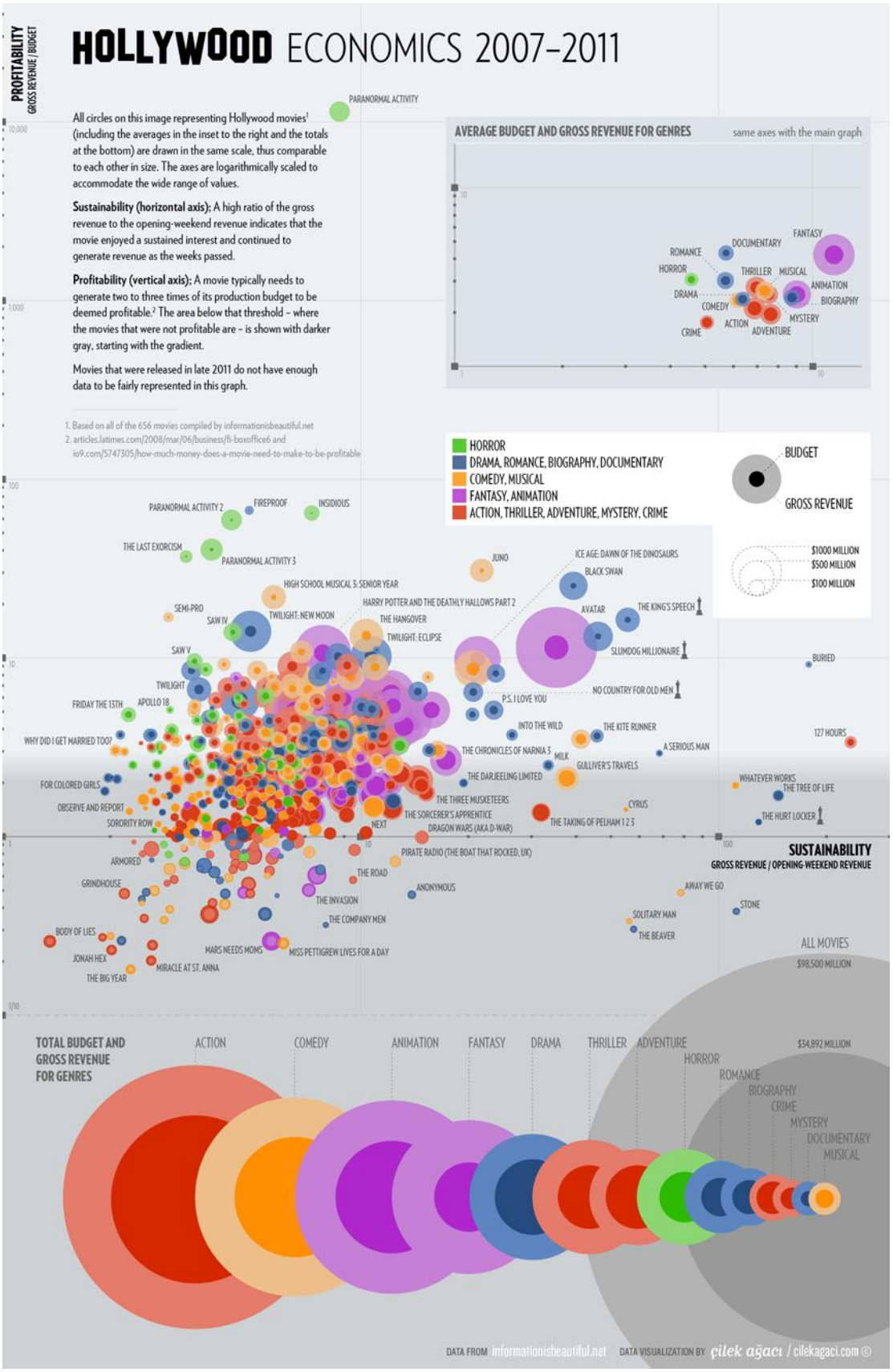


Figure 12. Deniz Cem Önduygu, Hollywood Economics, 2012

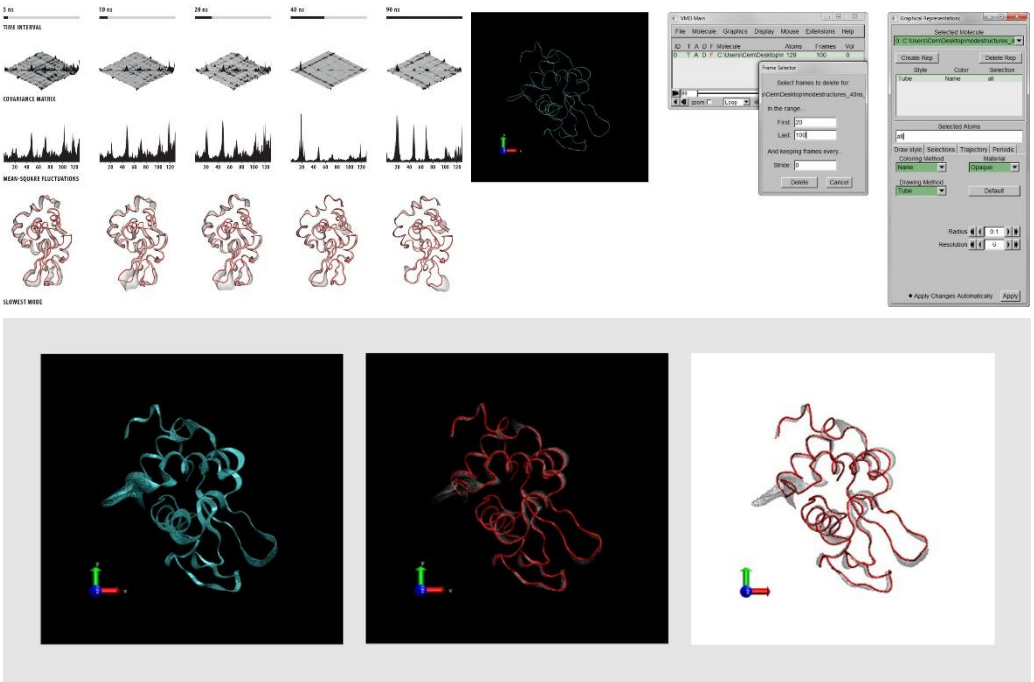


Figure 13. Deniz Cem Önduygu, Visualizing Protein Motions, 2011

Visualizing Protein Motions project's Canan Atılgan and Ali Rana Atılgan's article published in Annual Review of Biophysics, titled "*Network-Based Models as Tools Hinting at Non-Evident Protein Functionality*," states that "depicting protein dynamics in static images is a common problem because proteins are extremely complex structures and even drawing them motionless is a nightmare." Emphasizing that visualizing these movements is difficult because scientific studies are mostly conducted in static environments, the authors reinterpreted the complex, dynamic structure of proteins in static images for their biophysics article (Önduygu, 2025).

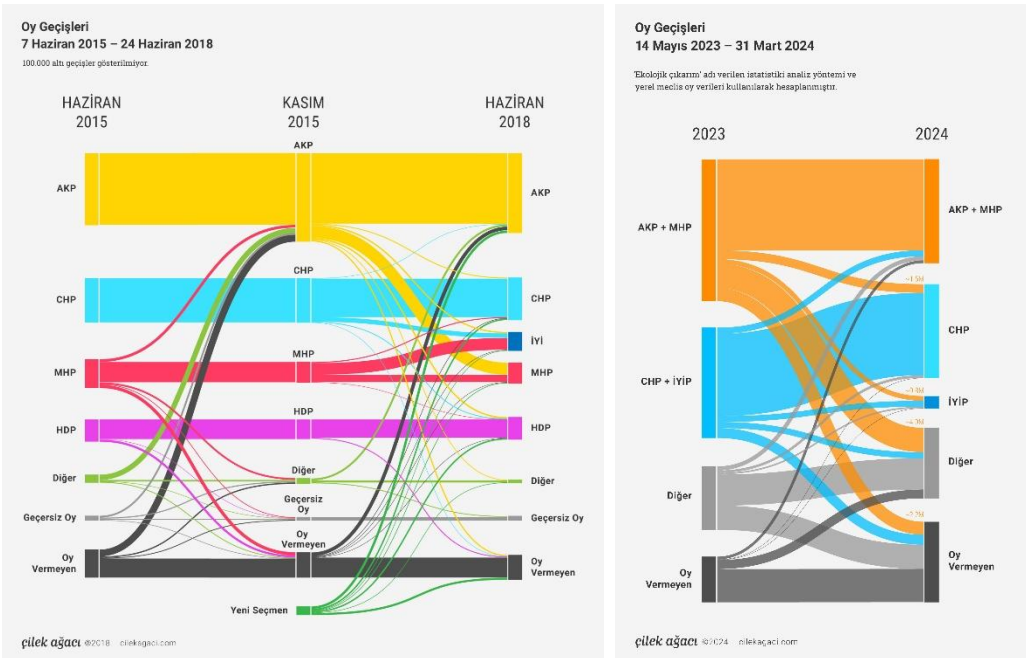


Figure 14. Deniz Cem Önduygu, Turkey Politics, 2011-ongoing

The *Çilek Ağacı* team, consisting of a group of engineers, researchers, and designers who apply data analysis and information design tools to cases from various fields such as sociology, politics, and popular culture, produced designs titled *Turkey Politics* (Figure 14), which visualize data analyses related to Turkish politics and present them in an applied form. Visual information graphics such as Local Council Vote Shares, Vote Transfers, Changes in Total Votes, Parliamentary Research Proposals Related to Earthquakes, Changes in Vote Counts, and Numbers of Immunity Files Regarding Members of Parliament are among the informational designs prepared by Önduygu and his team.

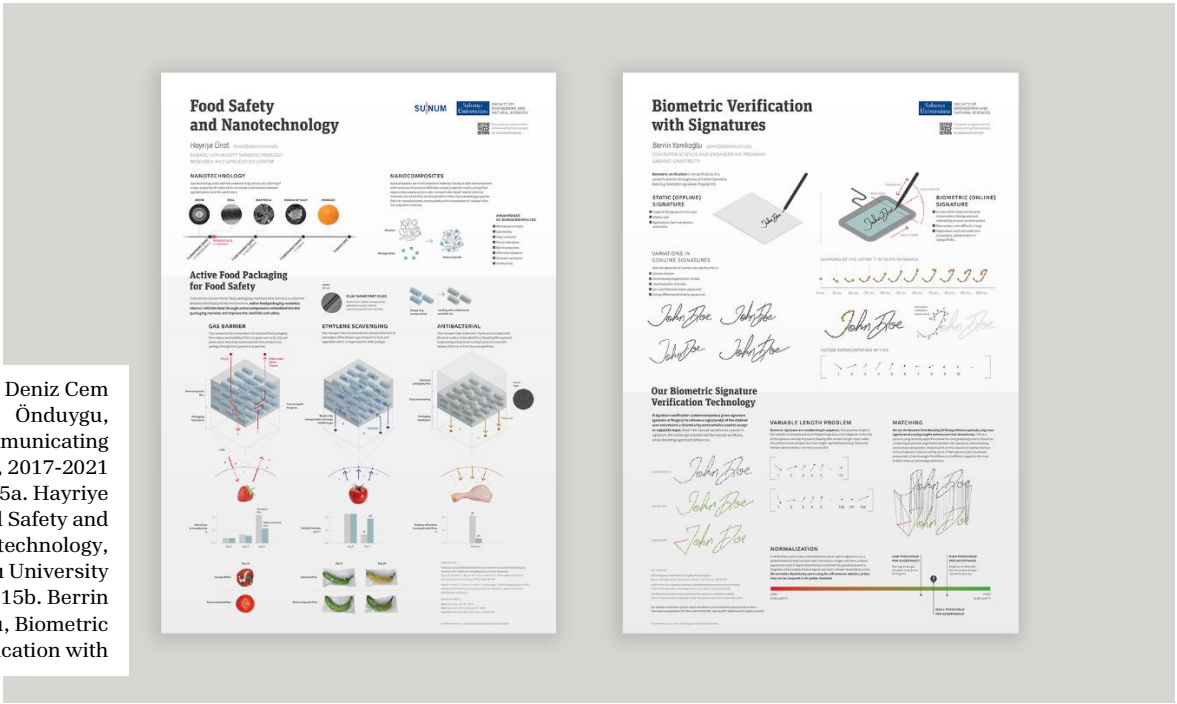


Figure 15. Deniz Cem Önduygu, Communicating Science, 2017-2021 Figure 15a. Hayriye Ünal, Food Safety and Nanotechnology, Sabancı University Figure 15b. Berrin Yanıkoğlu, Biometric Verification with

Between 2017 and 2021, the project titled *Communicating Science* was conducted at Sabancı University (Figure 15). Önduygu stated that they worked "to convey the research of scientists to people outside their field," that the work was not "limited to visual information design," and that the "general architecture and most of the explanatory texts" of the poster designs were the result of collaboration between scientists and designers (Önduygu, 2025).

Conclusion

With the acceleration of digitalization and information production, art and design disciplines have developed new data-driven means of expression, and graphical data visualizations in particular have transformed into an aesthetic and conceptual narrative space. In this context, the study discusses Önduygu's use of data, the topics addressed in his designs, and the purpose and method behind these designs, based on the artist's own statements. The research used a qualitative approach and a document analysis method. The data collection process primarily used project descriptions, texts, and promotional articles from the artist's website. In addition, secondary sources related to the artist, interviews, and various online content were evaluated as supporting material. The study focuses on what types of data the

designs address, how this data is selected and structured, and the meaning the artist assigns to these projects. Thus, the artist constructs the data as a narrative element that carries a specific intellectual orientation and critical perspective, rather than merely a quantitative dataset.

In this context, Deniz Cem Önduygu's works address data collected across fields such as physics, psychology, health, social relations, information, photography, and illustration. The artist uses data in his designs to present a multifaceted perspective, ranging from the individual's process of self-recognition and questioning to social structure and information relations. Particularly in projects such as "Graphagos," it is understood that an interactive communication is established between the designer and the recipient, and that the viewer goes beyond being a passive observer and becomes part of the process. This interactive structure enables the data to be reinterpreted through a graphical interface and allows the recipient to produce meaning by relating it to their own experience.

Within the scope of the research, it has been determined that the relationship between art and design and other disciplines, as well as between technology and information production, is clearly evident in Önduygu's designs. It has been observed that the artist, who directly incorporates data into the aesthetic creation process, transforms it into an artistic narrative through graphic arrangements, thereby bridging data visualization and conceptual art. From this perspective, Deniz Cem Önduygu's design approach can be considered a contemporary example that focuses on the content and meaning of data, establishes an interactive connection with the viewer, and emphasizes interdisciplinary thinking.

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Figure References

*All images are taken from the designer's own website with permission from Deniz Cem Önduygu.

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Data availability

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AI usage statement

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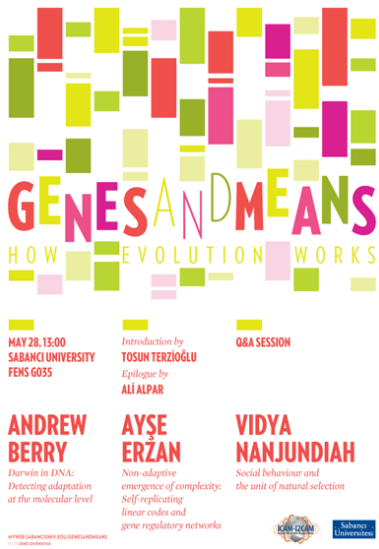
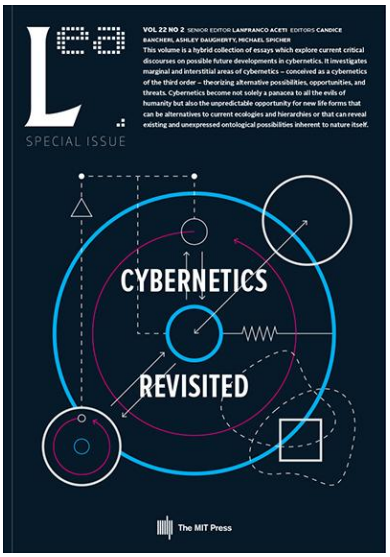
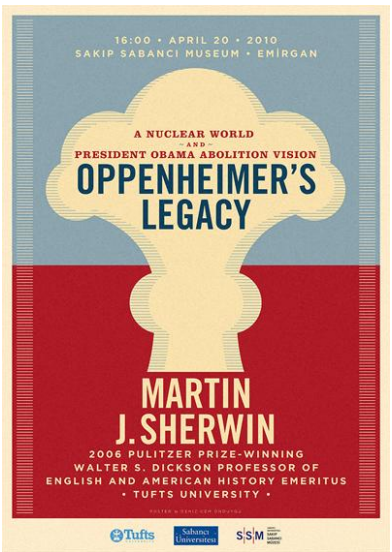
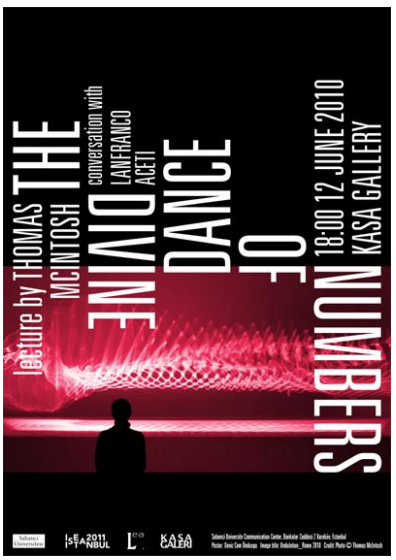
APPENDIX: Supplementary Figures

Appendix. Deniz Cem Önduygu, Posters & Covers / In the poster and cover designs created by the artist-designer using photography, graphics, typography, and illustration, information is transformed into visual language, data is reinterpreted with an aesthetic structure, and content is enriched through design.









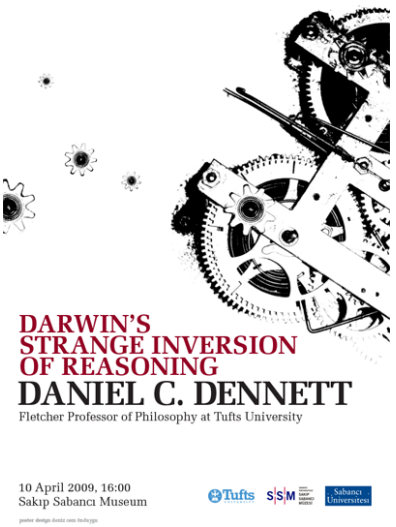


Figure 17. Poster Design, "Genes and Means- How Evolution Works", Sabancı University
Figure 18. Poster Design, "My Dear Liver- Aesthetics and Ethics of Bio-Art"
Figure 19. Cover Design, LEA (Leonardo Electronic Almanac), MIT Press
Figure 20. Poster Design, "Oppenheimer's Legacy", 2010, Sakıp Sabancı Museum
Figure 21. Poster Design, "The Divine Dance of Numbers", 2010, Sabancı University
Figure 22. Poster Design, "Darwin's Strange Inversion of Reasoning", 2009, Sakıp Sabancı Museum