

The “Color Fever” Chroma Survey 1973

Clino Trini Castelli

Castelli Design. memo@castellidesign.it

Corresponding author: Clino Trini Castelli (memo@castellidesign.it)

ABSTRACT

Fifty years have passed since the author, observing a series of developments related to the evolution of color culture in the early 1970s, realized that major historical events often coincided with epochal changes capable of giving rise to new global color languages. In those years the selection of a color was based not so much on the subjective choice of hues, as on the objective vivacity of the color’s saturation (chroma). Each color was thus selected at its maximum intensity, further accentuated by the monochromatic scheme inherited from the historical trend of the 1960s. That decade had been characterized by increasingly saturated primary colors, which precisely in 1973 led to a chromatic outburst whose maximum peak was reached in a sort of “color fever”. As we know, a fever is not itself an illness, but a symptom that reveals the presence of a pathology. In this case the peak of saturation, already detected in the field in 1973 and then measured and depicted in 1979 with the tracing of a new diagram: the “Color Fever” Chroma Survey (Figure 1). The peak registered the symptom of a crisis in the by-then obsolete quantitative dynamics that still regulated the choice of colors in use according to a rigid linear progression, lacking in other possible evolutions. These dynamics were no longer sustainable on a *qualistic* plane, and above all they proved to be unsuitable to grasp the signs of the appearance of a new “sentiment of color.”

KEYWORDS AIC2023 Chiang Rai Thailand, CMF Design Forecasting, 1973 Oil Shock, 1973 “Color Fever”, Advent of Ecology Concept, Conceptual Inversion, Emotional Experience, Umbrella Diagram, Qualistic, World-wide “Sentiment of Color”, Fragments.

RECEIVED 01/12/2023; **REVISED** 09/04/2024; **ACCEPTED** 10/04/2024

1. Introduction

Since the beginning of the 1970s, the color offering (*color presence*) of some new industrial products began to show obvious anomalies in the forecasting models. In fact, although still very primitive, they were changing under the influence of historical upheavals triggered by epochal events (such as in 1973, with the Arab-Israeli *Yom Kippur War*), which would lead us to experience the "oil shock": a sudden energy crisis that led to significant shortages throughout the western countries. For a rapidly growing society like ours, founded however on limited fossil energy resources and even more problematic nuclear alternatives, it was a heavy blow. The crisis and the resulting austerity led to a quadrupling of fuel costs and

other grave limitations which, however, lasted only one season, from the winter of 1973 to the spring of 1974. We had experienced a historic event that would radically change our future, even if we did not realize the energy dependence to which we were exposed and the influence on the patterns of our material culture. For example, until then the growth of color saturation on industrial products had followed a linear increase, with a rise in saturation already underway in the late 1960s. This was a *quantitative* effect connected to the demand for color typical of chromatic languages which did not suggest changes in a *qualitative* sense, such as the choice of new color shades (hue). What really mattered then was in fact only the strength of the color itself (chroma), i.e., its saturation (Figure 2).

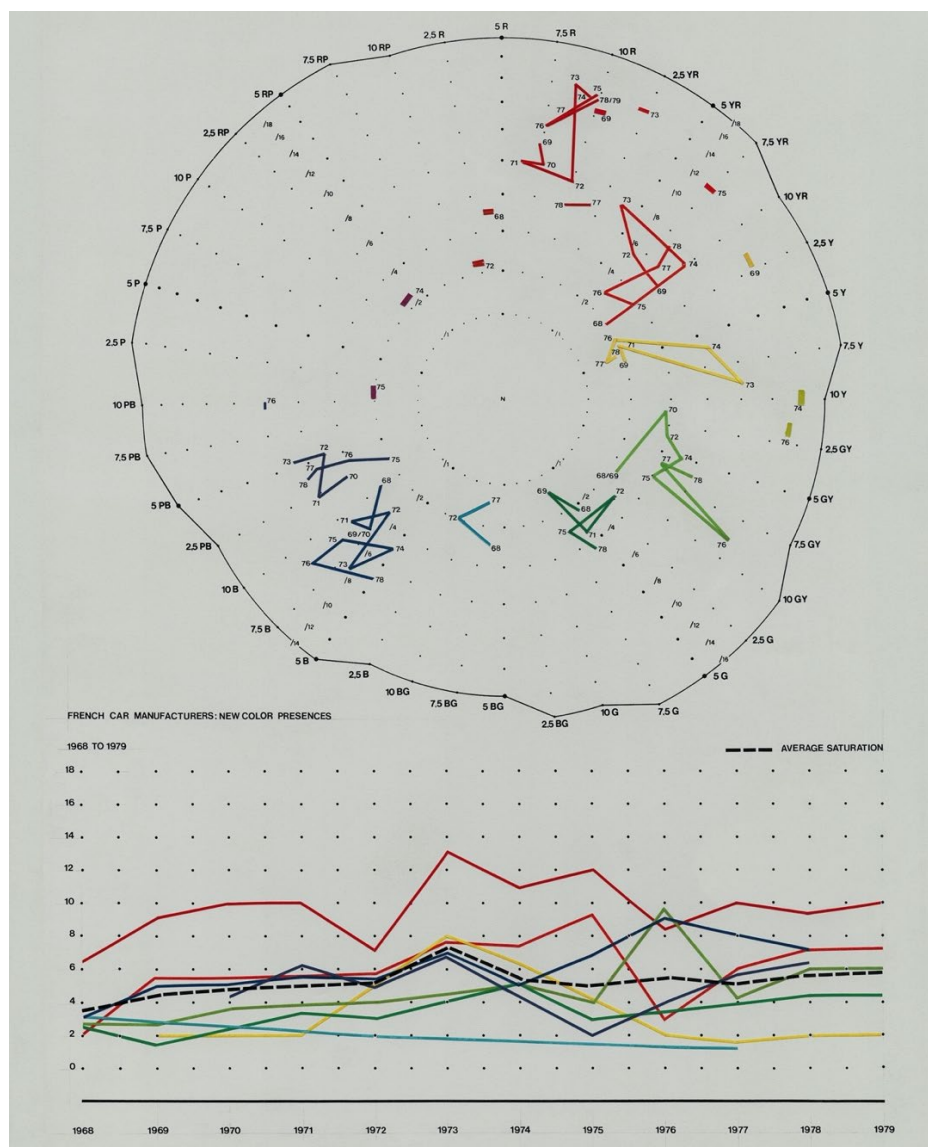


Figure 1. The original "Color Fever" Chroma Survey 1973.

In 1973 the "Color Fever" Chroma Survey diagram revealed a sudden peak on the line that indicated the average saturation of colors of automotive paints on the French market. France was chosen for the study because of the number of auto brands already active in that country. This peak, already detected through the first observations in the field, was shown on the saturation diagram of 1979, on the basis of data gathered from 1968 to 1979.

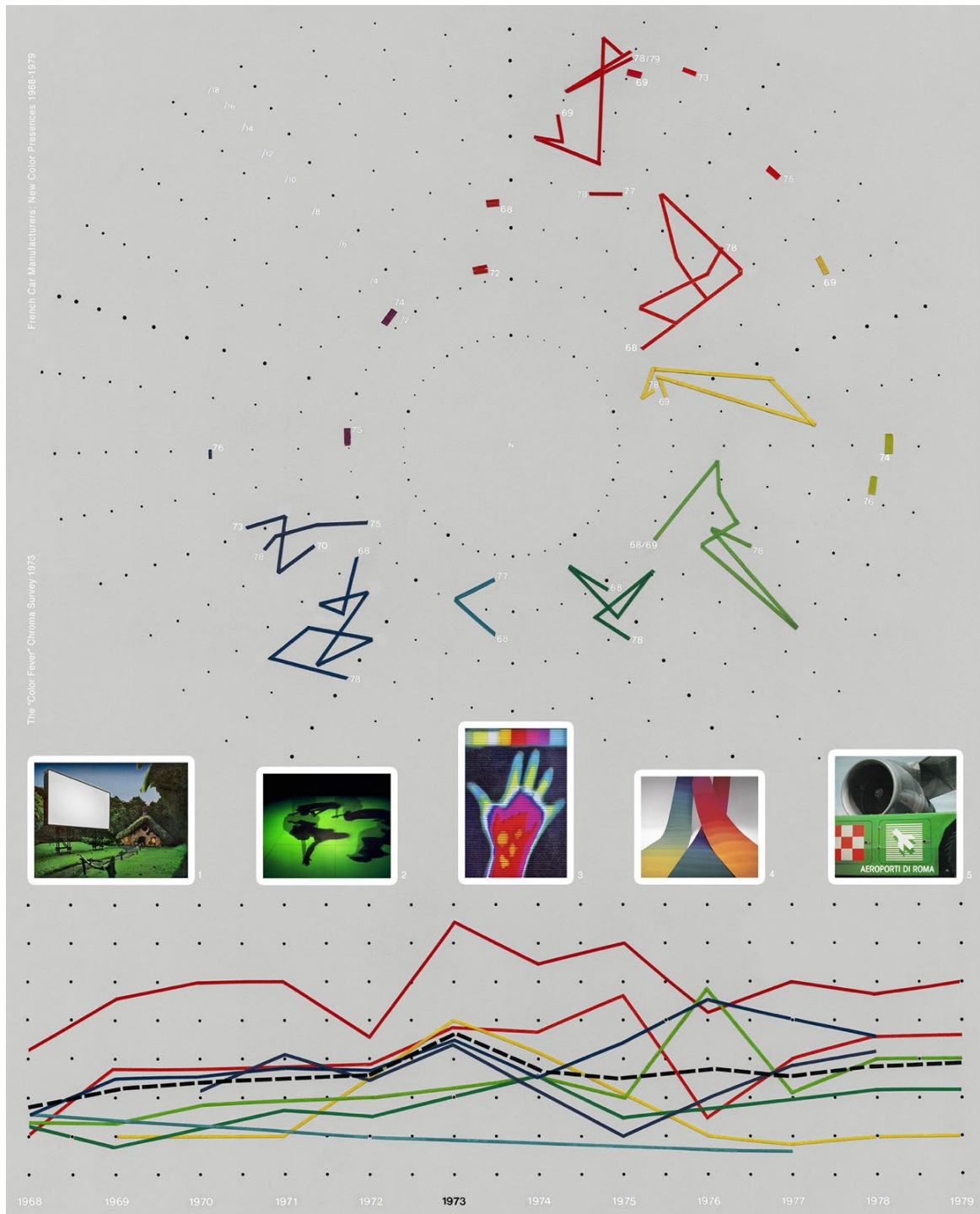


Figure 2. The "Color Fever" Peaks and the Early 1970s Project Scenarios.

The "Color Fever 1973" diagram combined with images of several project scenarios made by Trini Castelli in the first half of the 1970s. In those projects, the high levels of saturation of the start of the decade are still evident, shortly before the rise of the new color presence with the appearance on the market of color schemes having nuances typically found in nature (the new 70s natural colors, which in fact would replace the previous 60s primary colors). In 1976 we can also notice the progressive growth of the peak of a medium blue, and the sudden surge of the peak of a saturated green, which then became a fleeting fashion trend on the automotive market in that moment.

The real mutation would then be triggered spontaneously, precisely with the shock caused by the effects of that distant conflict which almost immediately led to the sudden collapse of the color saturation of most of the products on the markets.

Thus, a surprising effect was created, a sudden "conceptual inversion" which brought confusion between the colors and emotional languages which until that moment seemed to be completely stable and consolidated.

2. The chroma survey focus

In the early 1970s the end of the growth of saturation in paints seemed improbable, especially in a sector like that of automobiles, which amazingly enough was still operating with the color offerings of the previous decade. I should point out, however, that the 1960s had immediately stood out for the unprecedented use of a single highly saturated *primary color* (but also totally *neutral* tones like white, gray and black) which was applied to the entire body of the product, making it typically *monochromatic* (color

distribution). An eloquent example of this historical trend was the Olivetti *Valentine*, the typewriter designed by Ettore Sottsass in 1968, entirely in red ABS (one of the first products on which I was to work). Among the typical color presences of that decade, besides red and orange there were also yellow and blue. These colors were only used individually, and their brightness was always balanced by the juxtaposition with *generic colors* (neutral finishes in white, gray, black or chrome) applied to the generic parts of the products themselves, such as the legs of chairs or the bumpers of cars (Figure 3).



Figure 3. Leart Safety Lamp, 1965.

The Leart safety lamp for garages was the first industrial product entirely designed by Trini Castelli in 1964. It was without metal parts (except for the electrical gear) and was made entirely in polypropylene, in N7 gray (apart from the functional details in red). This lamp is also a good example of the historical trend of the 1960s, which favored a monochromatic color presence that was typically very saturated or - as in this case - totally neutral. That revolutionary polymer (Moplen) - created by the Nobel laureates for chemistry in 1963, Giulio Natta and Karl Ziegler - was the same resin utilized by Montedison to produce the new polypropylene fiber Meraklon, a material at the base of the prize-winning chromatic system of textile flooring Fibermatching 25 (Figure 4).



Figure 4. The Meraklon Fibermatching 25 System, 1975.

In the early 1970s, with Massimo Morozzi and Andrea Branzi, Clino Trini Castelli founded the Centro Design Montefibre of Gruppo Montedison, which was to mark the beginning of "Design Primario", comprising innovative ideas and systematic projects for new materials and processes in the "chemical-textile" sector. One of them was the Fibermatching 25 system, a new method of color formulation based on the inner mixture of Meraklon polypropylene fibers, "mass-dyed" or colored in full depth. That idea, based on the "partitive synthesis" of a limited series of special base colors, made it possible to create wide chromatic ranges with an eco-sustainable method, avoiding the pollution caused by the dyeing process. The physical synthesis of particles in the form of filaments of suitable chromaticity exploited the capacity for "visual discrimination" of the human eye, and had never been applied until then on an industrial scale. That method, having become an industrial process, was then re-applied twenty years later by Trini Castelli in Japan, this time utilizing nylon fibers, again batch-dyed, to produce other millions of square meters of textile flooring, which thus prevented any pollution from water used in the dyeing operation. In practice, starting with a limited number of fibers with very vivid based colors, these were simply de-saturated, mixing them closely with a range of other neutral-base gray fibers, in paler or darker blends. The project won the Compasso d'Oro ADI award in 1979.

3. The new "Sentiment of color"

The trend towards a progressive increase of color saturation of products in the industrial sector continued, in any case, with the introduction of new categories of super-saturated pigments. Nevertheless, precisely with the overall retreat from high saturation in 1973, new schemes of *color presence* spread on the market with neutral tones, whose identity could be associated with forms of *proto-ecology*. The intensity of the *primary colors*, seen until this point as the reflection of energy optimism, was increasingly rejected by the emerging environmentalist sensibility. The colors of materials and coatings utilized in various sectors thus became more imitative of nuances that could be found in nature (the 1970s *natural colors* would replace the 1960s *primary colors*). That drastic change also triggered a crisis in the various sectors of the automotive chain of design and production. It was a true debacle for major investors in the sector, which had focused only on quantitative programs of forecasting. This painful lesson would lead the entire sector into new forms of "design awareness" and to the passage from a linear perception of the flow of time towards a cyclical and evolutionary vision.

While in fashion changes in tastes and emotional languages seemed to mutate spontaneously, adapting to the new realities already at the start of the 1970s, the big chemicals industry had stubbornly clung to its saturated tones, although they had been rendered obsolete by a new "sentiment of color". In the end, that industrial sector squandered at least 10 years of massive investments for the production of new and very costly pigments, which due to their long development processes would systematically reach the market with major lag times with respect to current trends.

The exaggerated chromatic choices, no longer suited to the new emotional demands of the market, were immediately and totally rejected, in spite of last-minute attempts to enact shrewd marketing strategies, always with scant results. One of the first came from the insurance companies, which offered large discounts to car buyers who opted for high-visibility paint jobs that would be effective even in dense fog. I too, in 1976, in a corporate identity project for Aeroporti di Roma, had applied an apple green paint, almost fluorescent, for the entire fleet of ground support equipment: a choice dictated by the need for an image, but also by concerns of safety (Figure 5).



Figure 5. The "Green Peak", 1976.

The super-saturated colors developed at the start of the decade found new applications, dictated by necessities of image and safety, as in the case of the "green peak" of 1976 shown in the diagram, which sees the super-saturated signal-green applied to the bodywork of the ground support vehicles of Aeroporti di Roma. The same green was then used only for the bumpers and other generic parts of the Fiat Racing 131, combined instead with totally neutral bodywork.

Many sizeable investments went up in smoke, in fact, simply because no one wanted the new colors that were being produced. This was the outcome of the above-mentioned "conceptual inversion" that was rapidly becoming very obvious: people no longer wanted the super-saturation of "emergency" colors; everyone wanted only natural, intimate, non-assertive tones: nothing poisonous, nothing like the hues of the heavy metals. For the first time, the industry that stubbornly insisted on those old paints was automatically associated with the emerging problematic issues of environmental pollution.

I should point out, however, that already in 1964, when I began working for Olivetti in the Milan studio of Ettore Sottsass, at the headquarters in Ivrea the new CEO of Olivetti, Aurelio Peccei, made his appearance. Like him, I too came from the FIAT group in Turin, and like him I would remain with Olivetti only for the three subsequent years. Peccei, who did not appear to be particularly operative in the company, however, was one of the founders of the historic *Club of Rome* in 1968 (the non-governmental association

created with the mission of catalyzing global changes). Aurelio Peccei, thanks to his early vision, is now considered one of the originators of the idea of *ecology* itself. In 1972 he was to write the famous preface to the MIT report on *The Limits to Growth* [Meadows *et al.*, 1972], influencing international public opinion by foreseeing the issues and consequences of the first worldwide oil crisis of 1973. His position also helped to raise awareness among Italian companies of the importance of the environmental question.

Shortly thereafter, in May 1974, came the initiative of the historic magazine *Domus*, presenting the exhibition *Environment '74* [Casati, 1974] precisely in Turin. I participated with the entire section *Eco'74* (Figure 6), where I presented the themes of "*Design Primario*", with *Le Superfici Reattive* (Reactive Surfaces) [Trini Castelli, 1972] and *Camera Riverberante* (Reverberating Room): works and installations entirely made with *Lumiphos*, a luminescent HPL laminate from Abet Print. This was one of the very first international expositions in Europe on the new theme of ecology and environmental qualities.



Figure 6. *Eco '74. La Radura Pubblicitaria e Le Superfici Reattive*, 1974.

Lumiphos, in 1971, was the first true design of a new material developed in the form of a semi-finished product. It consisted of large totally photoluminescent HPL panels, which were then produced for over forty years by Abet Print. The choice of working on the design of materials instead of forms was already the start of a meta-design intention, oriented towards dematerialization of products and spaces. The idea was to design while remaining outside the traditional figurative culture, which took the "compositional aspects" of form as its ideal referent.

4. The International Scenarios

The surprising diagram of the "Color Fever" Chroma Survey is the most illustrative result of wide-ranging research on saturation in the paints made for the European automotive market. Begun in the early 1970s, that effort - conducted at first only in the field - had to do with the evolution of colors of the entire decade and stemmed from local observations made during my first trips in Europe and the United States. Actually it all began in July 1967, when at an early age I had the unmissable opportunity to travel to New York with my authoritative colleague Flavio Lucchini, who had just been appointed as art director of *Vogue Italia*, on his first visit to the editorial offices of *Vogue America*. Grace Mirabella was the editor at the time, and she introduced us to some of the most outstanding celebrities in New York, including Andy Warhol at his *Factory*, and visits to the studios of great Vogue photographers, from Richard Avedon to Hiro and Bert Stern. For me, the encounters with Irving Penn and Diane Arbus were unforgettable. Finally, we were invited to the opening of the *Electric Circus*, an amazing occasion that confirmed, from my viewpoint, the new format of international club culture, which I had already explored one year earlier at the *Piper Club* in Turin [Trini, 1968], with art events and design programs that became legendary in that historic context.

My second trip to the United States came two years later, in 1969, when I went to Berkeley by way of San Francisco, and was able to observe firsthand the protest movements of the students in California, which met with extensive media coverage. That trip continued with the discovery of the icons and colors of the Beat Generation and the "Flower Children," thanks to the local contacts of Fernanda Pivano, a writer and the translator of the leading American authors. "Nanda" had already introduced me, from the early 1960s, to those new literary genres and the captivating psychedelic imagery of the new underground magazines of California. Finally, with a detour to the Astrodome in Houston - courtesy of NASA - I was able to celebrate the return of the astronauts from the moon, after which I returned to Italy, passing through New York. That metropolis would soon become the true center of the world, and it was no coincidence that the most lucid interpretation of the events of the start of the decade came from the futurologist from New York, Alvin Toffler, who with his book *Future Shock* in 1970 [Toffler, 1970] pertinently described the condition of impermanence and the prospects of that whole decade, foreseeing the crisis of technocracies and already envisioning the abandonment of the still dominant techno-centric culture. We need only recall the unexpected developments of the oil shock of 1973 to understand just how precise and farsighted Toffler's forecasts were at the time.

With the arrival of the new decade there were multiple signals of change. Fashion was the first field to be involved in the phenomenon that was then to trigger the collapse of saturation of colors in other sectors. In London, in fact, we had passed from the minimalist vivacity of Mary Quant to the languid and dreamy intimism of Sarah Moon, and to the seductive scenarios of Biba, with the transgressive mini department stores of Barbara Hulanicki on Kensington High Street. In cinema, Stanley Kubrick would pass, instead, from the lysergic imagery of *2001: A Space Odyssey* (1968) to the nascent youthful deviations of *A Clockwork Orange* (1971). The new decade began with more frequent trips, on my part, between the Olivetti offices in Milan and London, where I was developing my ambitious project on the *Red Books* (Figure 7), the institutional identity manuals of Olivetti. London, besides being the city where my children were born, from 1970 to 1972, had become the worldwide capital of many of the events that were to influence the history of music and entertainment, as well as the production of new glamour merchandise for young tastes, at the two centers of Kings Road and Carnaby Street.



Figure 7. Olivetti Red Books, 1969-1974.

The Corporate Identity manuals of Olivetti, known as the Red Books, were the first operative manuals developed in a meta-design form by Trini Castelli. They are therefore true "cookbooks" capable of guiding other designers in the combination and measurement of the identifying ingredients of Olivetti. These were manuals prepared in an extensive and propositional way, full of "open" operative solutions, quite different from the intensive "menu-manuals" of Paul Rand for IBM. The latter imposed only choices between "closed" design solutions, which though they were extraordinary in quality were also limited to a few preset options. The new concepts would make the formula of operating manuals a true novelty in the sector.

5. CMF Design & Forecasting

In the meantime, Milan was preparing to become an international focal point for fashion, as well as for industrial design and the emerging *CMF Design (Color, Materials, Finishes)*. This activity was indicated with the acronym, which since 1981 I would use to define the projects on "soft redesign" of systemic products, such as those of Herman Miller for the office. With that company, at the XV Neocon in Chicago in 1983, I received the *Best in the Mart* award for the installation of the *Cathedral Office* (Figure 8). John Naisbitt

immediately grasped the innovation of that project-setting created for Neocon. In his book *Megatrends. Ten New Directions Transforming Our Lives* [Naisbitt, 1982], Naisbitt suggested a vision of the future which he defined as "High Touch", in keeping with my principle of "emotionally touching," aimed at the humanization of technology through the deep touch of qualistics. In this way, the transcendent image of the Cathedral Office was released from the current of technicism of the time, entering a sort of celebration of nature that was better suited to the new rituals of work in the office, as opposed to the accent on "High Tech" performance.



Figure 8. The Cathedral Office. Dark and Light Versions, 1983.

Details of the installation of the Cathedral Office of Herman Miller for the Chicago Merchandise Mart at Neocon 15, 1983. Awarded as the showroom Best in the Mart, the large installation by Trini Castelli - through the theatrical and transcendent use of the components of the office furnishing system - visualized the aspects of the new composite High Touch language. This was based on the novel principle of a profound touch of emotions, aimed at the humanization of technology. In this way, the transcendent image of the Cathedral Office was shifted away from the technicism of the time, instead entering a sort of celebrative nature, better suited to the rituals of a new idea of office work.

Returning from Chicago to Milan, leafing through *Color & Human Response* [Birren, 1978], a book by Faber Birren on color in psychedelic culture, I found an image that left me speechless: it showed a young couple dancing on a cube at the Electric Circus in New York, a woman in a long lace gown, and a man in a two-tone jacket. The book, headed for the nascent library of the ColorTerminal, had been published in 1978, the same year in which I had invited Birren to Milan for the *Seminari Colordinamo*

(Figure 9). Birren, who was known as a true guru of modern chromatic culture, had chosen that image for the colors of the jacket, though it was then published in black and white. It was an incredible coincidence, because I was the young man with the blue and apple green jacket in the image. When I pointed this strange fact out to Faber Birren, he hinted at a sort of predestination: in his entire book there were only about a dozen recognizable people, at a time when the population of the world was already four billion!



Fig. 9. Operazione Colordinamo, 1975-1977

The Operazione Colordinamo (Colordinamo Operation), which took place mostly from 1975 to 1978, is one of the first examples in Italy of research and development of color culture in the environmental field. Initiated with the Centro Design Montefibre, the Operazione Colordinamo operation gave rise to seminars, exhibitions and the well-known manuals for professional use, which were the first tool of orientation in the field of color design in Italy, published from 1975 to 1977. The first Colordinamo manual [Trini Castelli et al., 1975], in 1975, from which the poster is taken, was entirely devoted to the color of energy and the advent of RGB additive synthesis.

All the research conducted in the context of these Chroma Surveys had the main aim of identifying the "driving" chromatic languages of historical trends, which from the 1920s onward could be connected to their respective decades. The analysis of the variations of those chromatic trends, detected from their earliest manifestations, had already permitted me to observe how the color presences changed in the passage from one decade to the next, offering an effective way of understanding the origin and evolving nature of color languages as they emerge. This research would then lead to the development of the Umbrella Diagram [Trini Castelli, 1983], a tool owned by Castelli Design that was introduced at the start of the 1980s, which has enabled me to predict - far in advance - the changes that would take place regarding the identity of colors, new materials and emerging finishes.

The research has also had the aim of orienting designers in the assignment of colors to products, according to proper

criteria of sustainability, in both industrial design and space design. This is also a response to the large quantities of discarded products, caused by errors in the strictly subjective chromatic choices in areas of consumption that are sometimes lacking in sufficient awareness. In 1986 all this led to the formulation of Qualistics (initially defined as an "ecology of emotional consumption"), which has effectively proven to be useful to orient unresolved project themes, addressed by new qualifying practices which today we would define as "eco-sustainable".

From the mid-1970s to the end of the 1990s, the world of design - not just in Italy - was faced by the need to define new qualitative standards (today we would say "qualistic") for products whose identity had to be increasingly articulated in a subjective sense. The challenge, as always, was to remain within the "design culture", adopting CMF design strategies, such as the introduction of the Color Matrix, appropriately modulated according to the inclusive strength of the meta-project (Figure 10).



Fig. 10. Herman Miller Color Library (based on the Color Matrix), 1981

The Color-Matrix was introduced by Trini Castelli in 1978 and applied for the first time to the Lancia Color System, a CMF design project entirely based on this innovative meta-project tool. The Color Matrix is also the basis of the Herman Miller Color Library, the first major CMF project created for the entire production of Herman Miller furniture and systems (1981-1984). It allowed multiple alternative color combinations aimed at satisfying the different aesthetic preferences of users. A paradigmatic change, which has allowed us to exploit coded color families to create alternative combinations in a systemic way, overcoming the old "intensive" concept of the color chart to adhere to the new "extensive" vision of the Color Matrix, fully logical and practicable only through the meta-project. The colors of the matrices were finally conceived as immanent entities, as independent color notations that could adhere to any shape and whose application remained open and well-coordinated.

6. Chroma Survey – Modes and Methods

From those years, it is worth recalling two authoritative viewpoints in the debate on how to approach the practice of design: for Ettore Sottsass it was important to steer clear of the "underpinning" of the methodology, with its corollary of previously established rules. For Alessandro Mendini, on the other hand, it was necessary to "deconstruct" the concept of modality. He consolidated this position in 1977 with the founding of the design magazine *Modo*, through the idea of looking more closely at the "making", the direct experience of reality, a property that upon closer examination was already intrinsic precisely to the themes of color design [Trini Castelli, 2021]. This research began, in fact, with the observation of a clear variance between the figurative languages of fashion and those of design, which tended to diverge more and more. A theme to

investigate more deeply, on a professional level, through a simple but effective format, capable of permitting the carrying out of activities in keeping with conventional modes, such as research "in the field," elaboration "in the studio," and development "in the laboratory."

The activities in the field, conducted in alternating phases and across very wide time spans, were fundamental to make this survey, which began with the above-mentioned travels in the United States, which enabled an intense activity of collection of design data and materials. After this, from 1970 to 1973, all the activities in the field and those in the studio continued, for the most part, in Milan and London. The development in the studio of the "Color Fever" Chroma Survey was instead completed in just one year, 1978, with the gathering of data and the related documentation. In 1979, there was also added the incredible experience of my mission in China [Trini Castelli, 2019] for the chemical corporation Montedison. This was at the beginning of the opening of China's borders to foreigners, and in an area of the trade fair of Wuhan, a series of pilot plants were launched for the molding of small and large articles in plastic, the first objects of that type produced in the thousands of years of Chinese history.

From 1978, the observations of the initial Chroma Survey of the early 1970s were reapplied in relation only to the colors of automotive paints, visualized through the "Color Fever" Chroma Survey diagram. This had the aim of detecting the levels of saturation of paint in the cars available on the French market from 1968 to 1979, a choice based mainly on the variety and number of automotive brands still active in that country at the time. Finally, the development in the laboratory was instead a totally new activity, begun in 1978 with the creation of the ColorTerminal and the use of the Graphicolor tool, which made it possible to exploit the digital processing of RGB color synthesis, applied in a nascent state.

7. Chroma Survey Conclusion

In the 1960s, with the advent of color television, and in the 1970s, with the further spread of new electronic media, we passed from the exclusive use of subtractive color synthesis to the widespread application of RGB additive synthesis, a way of generating color that had never previously been utilized. Rarer in nature, additive synthesis revealed its efficacy as a new mode of chromatic interaction. This was an event that was to impact the history of art and design with substantial changes, also on an anthropological level. With the use of additive synthesis, color forcefully entered the kingdom of darkness, also saturating the hours of the night with autogenous chromatic shadings never seen before.

8. Acknowledgment

My heartfelt thanks to AIC President Leslie Harrington and - for my candidacy for the AIC 2023 CADE Award - to GdC-AIC President Marcello Picollo. Furthermore, I thank both Verena M. Schindler for welcoming me as an honorary member of the AIC SG ECD, and Alessandro Rizzi for the citation in the conference proceedings.

A special thanks in memory of my assistant Antonio Petrillo, who developed the original collection and reporting of the data from the Automotive Chroma Survey in 1979.

I would also like to thank Esperanza Nunez and Daniela Domina, who at different times contributed to the completion of the history of this research, and to Stephen Piccolo for his English translations of all my texts over the decades.

9. Short biography of the author(s)

Clinio Trini Castelli - (b. 1944) designer, artist and design theorist lives and works in Milan. Internationally known for CMF design (Color, Material and Finishes) of which he was the initiator, Castelli introduced the "No-form" renewal of plastic languages applied to industrial products through the tools of Design Primario. As opposed to traditional compositional methods, Clinio Trini Castelli has focused on the design of the more intangible aspects of figuration, like color and material, light and sound, emphasizing the virtues of a sensorial approach to art and design. Since the early 1970s this has made him a pioneer in research on the emotional identity of products in the industrial sector. His work has received important European, American, Japanese prizes, including two ADI Compasso d'Oro awards and the AIC Award for Color in Art, Design and Environment.

Licensing terms

Articles published in the "Cultura e Scienza del Colore -Color Culture and Science" journal are open access articles, distributed under the terms and conditions of the Creative Commons Attribution License (CC BY). You are free to share (copy and redistribute the material in any medium or format) and adapt (remix, transform, and build upon the material for any purpose, even commercially, under the following terms: you must give appropriate credit to authors, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use, you may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

Copyright: The authors keep the rights to further publish their contents where they want and can archive pre-print and post-print (submitted version and accepted version) and the published version of the PDF of their article with no embargo period.

References

Birren, F. (1978). Color & human response: Aspects of Light and Color Bearing on the Reactions of Living Things and the Welfare of Human Beings, New York: Van Nostrand Reinhold.

Casati, C. (1974). Environment '74: An Exhibition, Domus 536: 21-25.

Meadows, H. D.; Meadows, L. D.; Randers, J.; Behrens III, W. W., (1972). The Limits to Growth. A Report for THE CLUB OF ROME'S Project on the Predicament of Mankind, New York: Universe Books.

Naisbitt, J. (1982). Megatrends. Ten New Direction Transforming Our Life, New York: Warner Books.

Toffler, A. (1970). Future Shock, New York: Random House.

Trini Castelli, C. (1972). Reactive surface, Japan Interior Design 165: 31.

Trini Castelli, C.; Morozzi, M.; Branzi, A., (1975). Il Colore dell'Energia. Colordinamo 1975 - Manuale per uso professionale, Milano: Centro Design Montefibre.

Trini Castelli, C. (1983). Dal cucchiaino alla qualità (Editorial), Modo 63: 27.

Trini Castelli, C. (2019). No-form 2020. 10 racconti oltre il design, Mantova: Corraini Edizioni.

Trini Castelli, C. (2021). Umbrella Diagram: 1981-2021, five decades of forecasts and CMF design, Color Culture and Science Journal v.13 n.2: 84-90.

Trini, T. (1968). Divertimentifici, Domus 458: 16-23.