ABSTRACT

Our work intends to investigate the emergence, development and contributions of semiotics to the vast and complex discipline of design, which has only recently sought semiotic methodology. In particular, in proposing to investigate these developments, I intend to focus on the two semiotic traditions I know best: the Paris school initiated by Algirdas-Julien Greimas; and the Peircean interpretative tradition, as developed by Umberto Eco. These are the two theoretical paradigms that I have utilized in my research on the methodologies used in the study of design and design projects.

Keywords: semiotics, project, design projects, methodology

1 INTRODUCTION

This work intends to investigate the emergence, development and contributions of semiotics to the vast and complex discipline of design, which has only recently sought semiotic methodology. In particular, in proposing to investigate these developments, we intend to focus on the two semiotic traditions we know best: the Paris school initiated by Algirdas-Julien Greimas; and the Peircean interpretative tradition, as developed by Umberto Eco. These are the two theoretical paradigms that we have utilized in our research on the methodologies used in the study of design and design projects.

2 DESIGN’S PLACE IN SEMIOTICS

We must distinguish the possible levels on which semiotics acts, before we introduce semiotic research on design. This will allow us to situate how semiotics contributed to the field of design research indicating how a historical perspective can account for what led to the emergence of a specific field of study on one hand, and highlight the reasons, the shortcomings and impasses that, in our opinion, slowed the progress and effectiveness of these research projects on the other.

Utilizing Umberto Eco’s tripartite division, semiotic research contains three levels of study: general semiotics; specific semiotics; and applied semiotics. The first level addresses the codification and interpretation of signs (linguistic and non-linguistic), proposing a general classification that is derived from the way in which these signs are produced, and investigates meaning and signified. Specific semiotics addresses the specific characteristics of certain expressive manifestations by dividing general semiotics into sub-disciplines based on: the expression channel (visual, auditory, etc.); the type of discourse (legal, political, etc.); cultural practices (cinema, architecture, etc.); the media (semiotics of print, new media, etc.); relationships with other disciplines (semio-linguistics,
socio-semiotics, etc.); or particular expressive systems (gestures, objects, etc.). Lastly, applied semiotics studies and analyses a specific case (an object, a film, a novel, etc.). Clearly, semioticians generally work in all three areas, as general semiotics provide the tools and methodology to conduct an analysis that addresses both the theoretical research of general semiotics and the more specific issues that characterize the field to which the object of analysis belongs (which must be addressed with more specific methodologies). In other words, one works in hierarchical process. For this reason, every semiotic research both draws on and enriches other possible levels of study at the same time.

Starting from this distinction, we will outline a brief reconstruction of the history of design semiotics, which focuses on France and Italy. It is therefore partial, for which I take responsibility, and will demonstrate, (after years of research in the field) the legitimacy of this reconstruction1.

Taking stock of the semiotics of design is not easy because, apart from a few exceptions (which will be discussed), until the mid-nineties there were only rare publications. In addition, these publications were often hard to find, in which any form of continuity or dialogue between researchers was absent. In most cases, these works were not essays on design object, but rather research in which the reflections on design and everyday objects represented one of the many possible examples, secondary issues of publications whose main theme was another (e.g. the connotation, value, etc.2). For this reason, a real comprehensive theory of the semiotics of objects did not exist, because no author cited, and perhaps was not even aware of, the earlier work of other scholars. In other words, there was no research tradition, not even the term 'semiotics of design and objects', as a specific semiotics. This meant that on each occasion the scholar’s reflections started from the beginning, without being able to rely on a wealth of shared knowledge that could have advanced studies in this field more rapidly.

Semioticians themselves, moreover, did not recognize the specificity of these contributions, nor the existence of semiotics of design or of design projects. This was true despite the fact that at the end of the sixties, on several occasions architects and designers had expressed a certain interest in this approach to design. Paradoxically, in the early seventies, the only people that had taken the study of semiotics of design seriously, at least in Italy, were architects and designers. They would spark a heated debate regarding semiotics, adopting it sometimes because it was fashionable, and testing it on real problems in their daily work. Such turmoil was potentially very productive because it ended up highlighting the limits of the discipline, closed and self-referential. It also highlighted theoretical needs that semiotics could have satisfied, if only it had taken the requests of the occasionally provocative debates from the world of design seriously. Clearly, the semiotic community did not think they had much to add to the debate, and had no interest in interacting on the same ground - conceptual and metalinguistic - with other disciplines. Perhaps that is why designers’ interest in the semiotics of design, as well as that of the semioticians, evaporated, and for fifteen years (until the mid-nineties) it was no longer heard of.

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1 For a brief description of the historical tradition of design semiotics see Deni 2002 (with particular attention to the bibliography) and 2011.

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For all these reasons it is difficult to coherently and thematically present the birth of semiotics of design. After a troubled beginning, this field of study was actually only really established at the beginning of the new millennium. A historical account of the semiotics of objects could therefore be presented through the chronological order of the publications referred to here as the most representative. It is precisely in placing the contributions to the semiotics of design in chronological order that one sees the redundancy as well as the problems that arose without being noted and that were later reintroduced. This can be seen both regarding reflections on the value that objects assume and communicate, as well as in questions regarding how they work in relation to the user.

3  THE PIONEERS

The analysis found in Roland Barthes' *Mythologies* is certainly one of the contributions that represent the origin of the semiotics of design. Barthes was one of the first to question the operation of different language meaning systems, showing that meaning also depends on other concrete manifestations, equally worthy of being studied and demonstrated, through a popular language that sought to move beyond the linguist community. Barthes proposed an analysis of everyday objects beyond their function (toys), in order to emphasize their ability to embody and reproduce meanings in line with precise cultural and gender stereotypes of bourgeois society in the late fifties. Similarly, Barthes also addressed more complex objects, such as the automobile in his well-known analysis of the Citroën DS. In addition (even before Baudrillard) Barthes raised the issue of the value and meaning of materials (e.g. plastic) with semiotic approach, different from the sociological prospective, teaching us to take a good look at the object as an actual ideological discourse framed by a cultural system. Barthes explained how objects come to produce, and reproduce, meanings, rules for use, and interpretation of the object itself precisely through its use. At the same time, the semiotician warned of the unusual mode these communication systems employ in comparison to language. In fact, everyday objects do not arbitrarily use communication rules and set meanings, that are characteristic of the language, but rather establish new rules at every opportunity. Barthes taught us to understand that we have to discover the communicative codes that allow us to interpret the objects that surround us each time. In addition Barthes can also be considered the precursor of the *semiotics of practices* in that his analysis also questioned everyday objects, moving beyond the concept of the decontextualized *sign*, to the types of use that we would now say transform the simple primary use into the *practice of use* (children's game for example), later becoming real *ways of life* that are meaningful and stereotypical.

While coming from a different discipline, another important author for the semiotics of design was Baudrillard (1968), probably the first to treat everyday objects and, with his *The System of Objects*, was also the first to emphasize how objects produce sense thanks to their mutual relationships during use. Baudrillard also emphasized how humans develop feelings of ownership and attachment in relation to objects, often due to interest in the materials, the colours and thanks to the personalization strategies that are paradoxically proposed by the market itself. The sociologist also stressed the importance of

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3 In any case *semiotics of practices* was introduced by Fontanille in 2008.
considering everyday objects, taking care always to interpret them in relation to
the systems in which they are inserted (functional, gestural, social, cultural, as
well as form, colour, etc.), proposing various classifications. In addition, despite
having identified (like Barthes) the differences between language and other
systems of signification, Baudrillard concluded, in any case, by stating the need
for as many classification criteria as there are objects, starting from the fact that
objects do not have a meaning of their own. In his work, the sociologist focused
on the value of everyday objects that can be identified as symbolic, focusing on
their functional use and, more importantly, on aesthetics and style. From here
Baudrillard’s analysis is mostly based on the values though which objects are
placed into economic and cultural systems. This system includes mass produced
objects typical of industrial production but Baudrillard points out that, through
communication, the miracle of the system becomes, paradoxically, the
transformation of standardized objects into objects that are perceived as unique.
The result, according to the sociologist, is that individuals look alike while
thinking they are all different from each other.

In any case, the first to suggest architecture and design as a preferred field of
study for semiotics was Umberto Eco. In 1968 he proposed the founding act of
transforming it into specific semiotics in the chapter “Function and Sign:
Semiotics of Architecture”. This chapter is part of Eco’s well-known The Absent
Structure, greatly discussed in cultural debates of the time. In this provocatively
titled book Eco indicates some critical aspects of structuralism. In this discussion
Eco affirms the legitimacy of the establishment of a semiotics of architecture and
design. This legitimacy lies in the very definition of semiotics which, according to
the semiotician is “the science that studies all communication phenomena as if
they were a systems of signs - relying on the assumption that all cultural
phenomena are systems of signs, namely that the culture is basically
communication” (Eco 1968: 191, our tr.). In this chapter Eco has chosen to
define the field, specifying that he was referring to the communicative properties
of the function of everyday objects, but did not include aesthetic objects. With
‘Function and Sign: The Semiotics of Architecture’, Eco was the first, and for a
long time the only one, to question the role of theoretical and epistemological
semiotics in treating architecture and design. He suggested a potential path by
pointing out the need to reflect on the communication of object function. Eco
indicated that not only everyday objects signify their function (the primary
function, the denotation) and communicate values (the secondary function, the
connotation). However, the historical variations that these aspects undergo must
be recognized and described.

In my opinion, Eco contributions reflecting on the kind of epistemological
approach that a semiotics of architecture and design should take, insisting on
the need to investigate how objects produce semiosis, communicate and signify
functions and values. In addition, in this chapter Eco became aware of the
debate surrounding Functionalism, introducing the importance of the notion of
codes in order to better interpret it. He explained how Sullivan’s famous
formula “the form follows function” was to be understood in the context of a

4 Some recent publications on design include semiotics of objects and practices as well as everyday
objects and aesthetic objects. To this regard see Beyaert-Geslin 2012.

5 See Eco 1968.

6 See Sullivan 1896.
theory of interpretation, which was still heavily discussed at that time. Even today, ‘Function and Sign: Semiotics of Architecture’ is one of the classic foundations of semiotics of design and, at least until the end of the 1980s, was the only text that identified an effective model for the interpretation of the communicative function of everyday and architectural objects.

4 CRITICAL ATTENTION OF DESIGN THEORISTS

Tomàs Maldonado is an Argentine design theorist that directed the Hochschule für Gestaltung (Ulm School of Design) from 1954 to 1966, where he introduced an innovative approach regarding training which included the teaching of semiotics to complete the scientific and rational preparation necessary in the formation of a designer. According to Maldonado, a designer’s education need to be intellectually and historically rigorous as well as interdisciplinary. It is no coincidence, therefore, that the end of the sixties Tomàs Maldonado was the design theorist that argued the importance of design semiotics more than any other, filling it with many expectations but at the same time not sparing severe criticisms. His criticisms most frequently involved what he called the failure of the semiotic approach to overcome a descriptive approach to design, the use of a language that was incomprehensible even to the designers and architects, a theoretical and methodological approach better suited to linguistic texts that did not allow new more suitable methods to develop. In particular Maldonado turned to Eco and Barthes research on several occasions, but did not appreciate (nor in our opinion know well) the semiotics of the Paris school, only belatedly recognizing some merit in Greimas. In his view, semiotics has been useful for discussing the values and meanings of objects, but this had also entitled designers to abandon functionalism, justifying values and meanings that are not always present in the design. These criticisms circulated in the environment of the education of architects and designers for a long time and created, in my opinion, a prejudice against semiotics that further discouraged development until the end of the eighties.

Gillo Dorfles is another important figure in the twentieth century for his reflections on semiotics among theorists and critics of art and design. In particular, and unlike Maldonado, Dorfles strongly argued that semiotics was useful in enriching objects from a semantic point of view. In his opinion, it was precisely the objects’ semantic layer that could reinforce and simplify the uses’ function, thanks to semiotics’ contributions. In any case, Dorfles had a rather dated competence in semiotics, even for the time of he was writing in, albeit a representative knowledge for the debates that the he had with his colleagues. Dorfles investigated the problem of objects seen as complex and stratified signs, which, however, can be interpreted as the sum of the individual meanings of each sign. In any case, Dorfles’ reflections have highlighted the urgent need to develop a semiotic methodology that could interpret objects’ meaning. Such a method would help designers to, not just intuitively, navigate the maze of meanings.

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8 See Maldonado 1992.
9 See Dorfles 1972.
5 BEYOND INTENTIONS, AN APPLIED SEMIOTICS

After the hiatus that lasted almost two decades, albeit not continuous, important semioticians resumed their consideration of objects. These were fundamental works for subsequent research that began at the end of the last decade of the previous century and transformed the semiotics of design into a research area that became a specific semiotic.

We can mention Luis Prieto’s research among these contributions. In his essays he deliberated some of the basic concepts for the development of a semiotics of objects. Among these: the utility of a tool, defining it as the product of an industrial process; the identity of an object, especially that which Prieto defined as its specific identity, which consists in identification of the elements that make it possible to identify an object as a unit that is identical to others in the same collection (such as a pen); numerical identity that characterizes the object as unique, and allows one to recognize it among similar objects (my pen); the spatial-temporal limitation of objects which allows for the elaboration of classification systems. Prieto’s other important observations for the semiotics of design and objects are those that address the concept of relevance, according to which it is necessary to address an object from a specific piece of analysis that will guide the entire interpretative process. In those same terms, the researcher stressed the importance of identifying distinctive elements that guide the exploration of an area of analysis in the object itself. Nevertheless, Prieto did not insist on focusing on one area of analysis instead of others, but rather on the need to maintain a consistent analytical path that acknowledges what the object itself suggests. Prieto is the first semiotician to explain the problem of relevance by referring to the analysis of the objects. This theoretical position was, and still is in my opinion, very useful to the semiotics of design field of studies. It is no coincidence, perhaps, that up until the 1990s semiotic papers on the semiotics of objects and design focused on the occasionally generic (everyday objects) general theoretical aspect, and that there was little interest in conducting specific research which could have developed a methodology for the analysis of specific objects.

Another scholar who gave a significant contribution to the semiotics of objects and design, without, however, coming from our discipline, is undoubtedly Bruno Latour. In the mid-nineties, at a time when semiotics had begun to question the legitimacy of their approach to the analysis of everyday objects again, Latour used the categories of semiotic analysis in various publications, with particular reference to the theory of actants and action programs considered from a narrative perspective. In these terms, Latour introduced the concept of hybrid actants (between subjects and objects), syncretic actants, as intermediaries in the subject-object relationship for some everyday objects. The scholar also drew attention to the importance of interpreting objects in the context of their specific use, the interactions that objects suggest, and considering the places in which they are used. In addition, Latour described the objects in semiotic terms as if they were texts with the user and the designer incorporated, as if the roles were

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“distributed in advance” and “the designers’ and users’ instructions are very similar to those of authors and readers in a novel”\textsuperscript{12}. This concept is apparently very similar to that of Umberto Eco’s *Model Author* and *Model Reader*\textsuperscript{13}. For all of these reasons, the Latour’s reflections have had an important role in the development of the concept of the *facticiveness* of objects; the issue which I have personally worked on for many years\textsuperscript{14}. In addition, while not specifically talking about semiotics of the design projects, Latour emphasized the need to pre-inscribe the roles during the design phase, in order to avoid that there would be too large a difference between the prescribed user and actual in-the-flesh one in the final product. The scholar also proposed several important concepts, in my opinion, considered in view of design projects. Among them we can cite *transposition*, the process that allows one to provide a function for an object with the awareness of working on signification processes on the content (the function) and the expressive (the materiality of the object) level. A good example is the cement speed bump. Latour explained how the designers had several options (linguistic, iconic, object choice) with which to communicate the injunction to “slow down” to motorists. The final choice is, actually a form of *translation* that could implicate other forms of expression than just the verbal or visual (a road sign, a traffic cop, the speed bump). The choice of one object over another evidently has consequences, but it is also important to analyse the main purpose of a project to see if the result comes to fruition, beyond the reasons that are contextually assessed. The traffic signal, which indicates to motorists to slow down near a school, appeals to morality; the speed bump appeals to the selfishness of the motorists who wants to protect their car’s suspension. In this case, Latour describes both how designers realized the need to evaluate the final result and go beyond the reasons why an injunction is respected (moral or egoism), and the effectiveness of awareness of the fact that a content (in this case a function, a value) may be *transposed* and *translated* through different expressive forms and substances.

6 SEMIOTICS OF OBJECTS AND DESIGN

In the same period, semiotic studies become permeable to the cognitive sciences that were in great turmoil at the time. It is at this point that, in Italy, Eco published a book with a chapter on the concept of *affordance*\textsuperscript{15}, methods of recognition and interpretation of objects\textsuperscript{16}, classification of objects such as prosthesis, and the distinction between objects as tools used by man and autonomous machines\textsuperscript{17}. Patrizia Violi re-addressed the analysis of the basic categories that objects belong to (linguistic and with respect to functional use)\textsuperscript{18},

\textsuperscript{12} See Latour 1993: 67-68 in the Italian version.

\textsuperscript{13} See Eco 1979.

\textsuperscript{14} See Deni 2001, 2002a, 2002b e 2005.

\textsuperscript{15} See Gibson 1979.

\textsuperscript{16} See Eco 1997 §3 regarding the Cognitive Type, Nuclear Content and Molar Content.

\textsuperscript{17} See Eco 1997 § 6.

\textsuperscript{18} See Violi 1997 and Labov 1975.
and Tomás Maldonado published a new book on the classification of technical and technological objects as prosthesis to the type of action, or the perception that these objects permit. In particular, Eco describes objects as prosthesis because they allow for actions that compensate for the shortcomings of the human body, based on this idea he proposes an articulated classification: the *substitutive prostheses* allow for actions that the body could perform, but which, for contingent reasons, it is no longer able to (eyeglasses); *extensive prostheses* amplify the body’s natural functions (speakers, cutlery, clothes because they increase the body’s resistance). *Magnificative prostheses* are improved *extensive prostheses* that allow us to do things we would not normally be able to do (microscope, telescope). They are subdivided into *extensive-intrusive* and *magnificative-intrusive prostheses*.

Between the end of the last century and the beginning of the new millennium, however, the Paris school had the leading role regarding the quantity of conferences, seminars and publications. As for the semiotic analysis of particular objects, Echian tradition somehow handed its place over to the school of Paris that began to publish the majority of papers. Jean-Marie Floch is the most important reference for the semiotics of design. At the time, he was the first to address the usefulness of semiotics for design (1990), to focus attention on the enunciative traces present in the objects that guide the actions of the users, and to propose the analysis (the analysis of Opinel is the most famous, 1997) that follows the object description stages introduced by Greimas (1983, 1987), becoming the classic model for any following analysis. These were also the years in which socio-semiotics developed from contributions that integrated the semiotic tools of the Paris school with a sociological perspective. Andrea Semprini dedicated several publications to the semiotics of objects. His *L’Objet comme procès et comme action (The Object as a Process and an Action)* introduces the first systematization of the study of everyday objects. In the first part Semprini proposes a reflection on objects, tracing the contributions of disciplines that historically have treated this issue such as phenomenology, ethnomethodology, and anthropology. In the second part the scholar addresses the analysis of specific objects.

Most of the contributions in this period are reflections on the value of objects, their narrative potential and, to a lesser extent, the actions inscribed in their materiality. This theme includes work by Omar Calabrese, who addresses: the objects’ embodied knowledge as well as their know-how; the mediating role of the objects with regard to relationships between human beings; the reasons for the success of objects that have revolutionized action; the concept of innovation in the design and production of objects of daily use. In addition in the same period in Italy, some research on the semiotics of objects was published thanks to an enlightened industrialist, Alberto Alessi. Alessi, with the help of Alessandro Mendini, founded the Centro Studi Alessi (Alessi Research Center), ensuring a...
permanent collaboration between designers, semioticians and sociologists. At the Research Centre there were workshops where the participants worked and wrote about the value of objects, the emotional and pathemic relationships that bind human beings to objects, use of materials, colours and shapes that act on the aesthetic dimension amplifying passions and emotions towards the objects.

Since the early 2000s there has been a lot of excitement in the field of the semiotics of design and objects, which, in particular in France and Italy, definitively took on the status of a specific semiotic through conferences, theses, and a growing number of publications. From this moment the applied research fields of design, everyday objects, spaces, and interfaces specialized, and the research projects moved on to other problems such as the controversial issue of function. In many cases, the issue of function has been overlooked, and seen as an outdated issue. It was believed that there was not much more to add, or that the concept of affordance had summed up any possible new discovery regarding the function and usability of the objects. Instead, I believe this was only the beginning of a possible reflection on function. On the contrary, this has resulted in a return to sociological themes (such as value), guilty of neglecting an accurate and timely semiotic analysis of the functions and morphology of objects. Based on this background, as a semiotician my goal was to reinitiate a reflection that would help understand object signification modalities, the ways they communicate and guide the actions they perform. Certain publications in this period return attention to the semiotic analysis of function communication (my first studies on factitiveness), interface, supports, commands, organization of space, and the relationship between user and object.

7 CONCLUSIONS: FROM THE ANALYSIS TO THE METHODOLOGY OF THE DESIGN PROJECTS

Most of the conferences, seminars and publications on the semiotics of objects came to light in the late 1990s and the early twenty-first century. In addition, in the last few years, at least in Italy, design and architecture departments have established courses in which semiotics has an important role. It is precisely this period in which design students indicate the need to go beyond the semiotic


27 La semiotica degli oggetti [Semiotics of Objects], an annual doctoral seminar organized by Cid Jurado and Deni (directed by U. Eco), 1995-1996; the conferences "Les métiers de la sémiotique" organized by CeRes of Limoges (Centre de Recherches Sémiotiques), 6-8/11/97; 28-29/5/99, several presenters addressed the semiotics of objects.

28 For example at ISIA in Florence the students have 112 hours of Semiotics courses in the second year of the undergraduate program.
tools of analysis such as important improvements in order to fully understand how objects take on values for the subject, and how objects communicate their functions in precise use circumstances. But what is still missing at the beginning of the new millennia is a systematic reflection on the predictive capabilities of semiotics. For various reasons such as teaching, consulting and research, many scholars are beginning to work with semiotics as the methodology of design projects. In particular, we are referring to both scholars and designers who teach in the applied arts and design departments in France, and a group of semioticians trained at the University of Bologna who teach in design schools, polytechnics, design institutes and work in marketing research. The primary aim of these scholars is: to provide theoretical and methodological tools to designers and planners that will allow them to organize the content and scope of a design project; to facilitate dialogue between the disciplines and skills involved in the same project (various specialized professional skills); to provide appropriate tools to foresee who the users of the final product will be through semiotics; to properly involve the participants as well as the project client. The methodological proposals stem from the Peircean semiotic tradition, from the School of Paris and Eco. The first is useful for investigating the problem, to classify the ways in which we can intervene or produce semiosis. The second assumes a separation between the expressive plane and the content plane, and goes through the generative process in the reverse direction of that of the analysis. The third, based on Eco’s work, is somewhat of a synthesis of the first two, in that it integrates the Hjelmslevian approach in which the expressive plane and the content plane are interdependent. It offers a reflection on enunciation strategies, a fundamental aspect in design, integrating the notion of the design project as a system that requires and, at the same time, expects an analysis of designer (singular or plural) and the user (singular, plural).

In all of the examples the proposed methods provide indications, depending on the case, for proceeding through a series of stages. The semiotic specificity does not refer to a lack of general instruments, but rather to adapting them to each specific project in a detailed manner. The need to handle each project, and the complex phases of conception in particular is even more evident in contemporary design projects, which operate in the fields of product design, communication design, service design and social design. In all these last design fields, in fact, the information to be managed, as well as the project phases and communities involved, necessitate tools for both communication management and the overall project. In all of these situations, semiotics attempts to provide an adequate response for each specific case.

In this regard A. Zinna (2002a) wrote an essay on doing semiotics, identifying its main features: description, production, comparison and design.

Belkhamsa-Darras eds. 2010; Darras ed. 2011; Beyaert-Geslin 2012, Beyaert-Geslin, Cardoso and Piponnier.

Such as the editors of the online magazine www.ocula.it, who also published in the two books on the semiotics of design projects; see Deni-Proni eds. 2008 and Bianchi, Montanari and Zingale eds. 2010.

See the entry “Generative process” in Greimas-Courtès 1979.
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