THE DESIGNED WORLD

THE DESIGNED

WORLD

Images, Objects, Environments

Richard Buchanan, Dennis Doordan, and Victor Margolin

BERG

Oxford • New York

English edition
First published in 2010 by
Berg
Editorial offices:
First Floor, Angel Court, 81 St Clements Street, Oxford OX4 1AW, UK
175 Fifth Avenue, New York, NY 10010, USA

Berg is the imprint of Oxford International Publishers Ltd.

Library of Congress Cataloging-in-Publication Data

The designed world : images, objects, environments / [edited by] Victor Margolin, Dennis Doordan, and Richard Buchanan. — English ed.
p. cm.
ISBN 978-1-84788-585-2 (pbk.) — ISBN 978-1-84788-586-9 (cloth)
1. Design. 2. Architectural design. 3. Industrial design. I. Margolin, Victor, 1941-
II. Doordan, Dennis P. III. Buchanan, Richard. IV. Design issues.
NK1520.D467 2010
745.2—dc22

2010029807

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library.

ISBN 978 1 84788 586 9 (Cloth)
978 1 84788 585 2 (Paper)

Typeset by JS Typesetting Ltd, Porthcawl, Mid Glamorgan
Printed in the UK by the MPG Books Group

www.bergpublishers.com

CONTENTS

Editors' Biographies ix
Authors' Biographies xi

General Introduction 1

PART I: CONCEPTUALIZATION

Introduction 7

1. Branzi's Dilemma: Design in Contemporary Culture 13
Richard Buchanan

2. Designing the Artificial: An Interdisciplinary Study 28
Massimo Negrotti

3. A Scenario for Design 37
Wolfgang Jonas

4. Information and Reality at the Turn of the Century 53
Albert Borgmann

5. Thorstein Veblen at the University of Chicago and the Socialization of Aesthetics 61
Ellen Mazur Thomson

6. Adolf Loos and the Aphoristic Style: Rhetorical Practice in Early Twentieth-Century Design Criticism 72
John V. Maciuika

7. The Things That Matter 83
Peter-Paul Verbeek and *Petran Kockelkoren*

8. Domestication of Everyday Life Technology: Dynamic Views on the Social Histories of Artifacts 95
Mika Pantzar

9. Environmental Design and Industrial Design: Integrating Knowledge Around Urgent Issues 108
Medardo Chiapponi

Further Reading for Part I 117

PART II: FABRICATION

Section 1: The Design Process and New Domains of Practice 119

Introduction to Section 1 121

10. Simulated Seas: Exhibition Design in Contemporary Aquariums 123
Dennis Doordan

11. The Arts of War: "Visual Presentation" and National Intelligence 131
Barry Katz

12. "This is my Brain Book": Day-Timers and Expedient Design 149
Sara K. Schneider

13. The Design of the Connection Machine 155
Tamiko Thiel

14. Accidental Machines: The Impact of Popular Participation in Computer Technology 167
Michael Punt

15. Typography and the Screen: A Technical Chronology of Digital Typography, 1984–1997 188
Loretta Staples

Further Reading for Part II, Section 1 205

Section 2: The Design Process and the Social Meaning of Things 207

Introduction to Section 2 209

16. History from Things: Notes on the History of Industrial Design 211
Raimonda Riccini

17. Olympus and the Marketplace: Reyner Banham and Design Criticism 228
Nigel Whiteley

18. Visibility in Progress 238
Giovanni Anceschi

19. Softening Up the Facts: Engineers in Design Meetings 247
Peter Lloyd and *Jerry Busby*

20. Fourth-Order Design: A Practical Perspective 260
Tony Golsby-Smith

Further Reading for Part II, Section 2 277

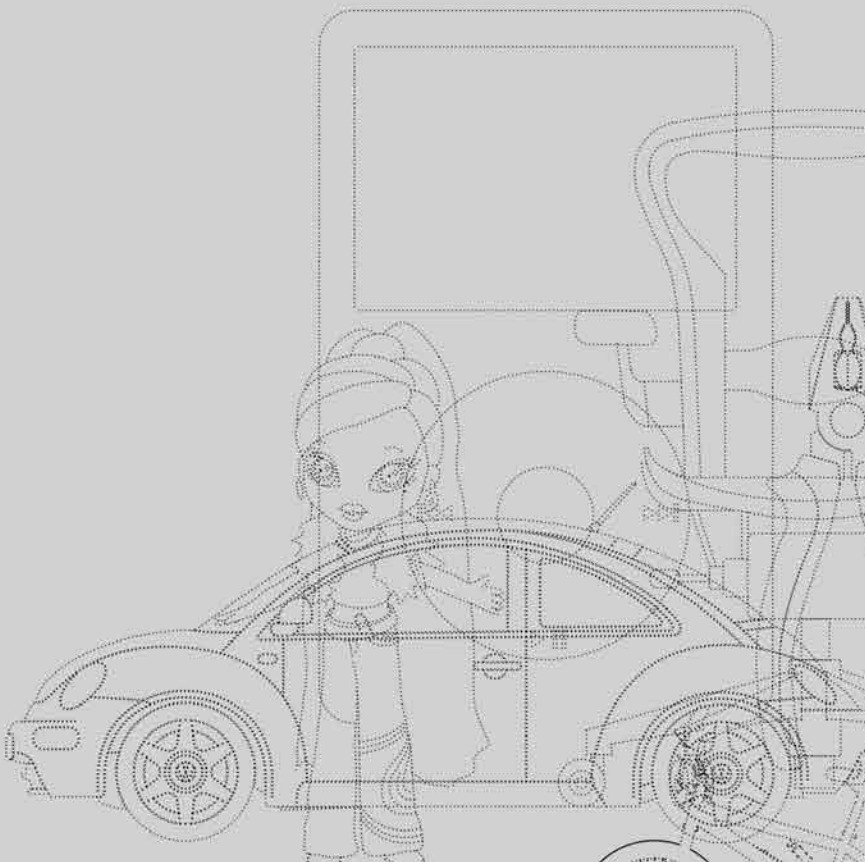
PART III: EVALUATION

Introduction 281

21. It's a Nice World After All: The Vision of "Difference" in *Colors* 285
Ann Tyler

PART I

CONCEPTUALIZATION



INTRODUCTION

The growing popularity of design in public consciousness belies many difficult, unanswered questions about the nature of design and its proper place in the world. There are, in fact, many writers who have recognized the growing interest in design and have quickly sought to capitalize on the surge by offering books and articles that "slim down" the fundamental problems of design until they look simple and may be resolved into catchy, trendy terms such as "integration," "innovation," and "creativity." Behind these enthusiastic but thin books, however, there is a growing literature of sophisticated discussions that explore the conceptual roots of the field and its diverse forms of practice. This literature introduces new concepts and arguments that help us to question and understand the direction of design as a field of study as well as a discipline of practice.

One feature of the new conceptualizations of design is the blurring of boundaries between history, theory, and criticism, revealing the deeper interconnections that explain the importance of design as a social and cultural influence. The guiding idea of such work is that design is the location of a new exploration of culture that combines theory (ideas about the nature of the world) with practice (the skills and purposes of practical action that have an impact on the lives of individuals and communities). The meeting ground of theory and practice in the twenty-first century is the designed world of images, objects, activities, and environments. In short, the meeting ground is the making and remaking of our world in products of the imagination. This is a new understanding of the nature of imagination, and design is one of the disciplines where this understanding takes concrete form. In the nineteenth century, imagination was considered a faculty of the mind, operating between reason and will. In the twenty-first century, the discussion of imagination and the productivity that follows from the power of imagination is placed not in the context of faculties of the mind but in the context of experience and expression – the context of productive action. Imagination is the ability of human beings to visualize and create images that interpret reality, shape our understanding of the world, and help us to act more fully as human beings. The ability to visualize and to bring visions into concrete experience is the ability of design. Despite much confusion and disagreement over the meaning of "design thinking," our understanding of this phrase would benefit by considering this observation by the philosopher Richard McKeon: "The mind which is actively thinking is the objects which it thinks." We understand the activity of thinking in design by understanding the objects that we create in the imagination and that we often bring to concrete form in the world around us. How else can one identify the mind of the actively thinking designer than by the visions and objects of thought that he or she creates through the activity of imagination?

The articles in this first section of the book offer objects of thought for reflection and discussion. Instead of "honing down" the problems of design until they appear simple, the authors confront the difficulties of design and lead us down different pathways of exploration. They encourage the reader to begin actively thinking about design in new ways. In short, they help to reveal the unfinished work of understanding design.

This section begins with an article by Richard Buchanan on the problem of identity and moral purpose in design. Using an article by the designer Andrea Branzi as a point of departure, he discusses a dilemma faced by designers and by design itself in the turbulent times of cultural change that mark our historical period. Without a unifying ideology – such as provided in general terms by earlier forms of modernism – where is the designer to turn for new vision and values? He argues that in the emerging pluralism of contemporary culture we do not have to retreat into the tribalism of individual camps and sects, each guided by a powerful leader. Instead, we should recognize that vision and values are precisely the proper subjects for discussion, often reflected in the repositioning of design in new places of engagement such as strategic planning and organizational change – the new third and fourth orders of design. He argues that we may begin to think about the problem in a new way if we change our commonplace idea of culture as merely an ideology and think of it instead as a human activity of cultivation, with continual ordering, disordering, and reordering through responsible discussion, supported by new tools that are beginning to emerge in the work of design.

Massimo Negrotti reopens one of the fundamental problems of design that many writers have regarded as a settled matter: the relationship between the natural and the artificial. By introducing a new distinction in what we regard as the artificial, he takes design into a new sphere of work, seeking to clarify the complex relationship of design and natural science. He argues that earlier writers, including Herbert Simon, have neglected the teleological difference between artificial objects such as cathode tubes and artificial hearts. To explain this, he points toward two constructive ambitions that have characterized human culture and civilization from its earliest period. One he calls the Prometheus syndrome, focused on inventing objects that can dominate nature and that are adapted to natural laws. The other may be called the Icarus syndrome, focused on reproducing natural objects and processes through different strategies than those that nature, itself, employs. This is the difference, he argues, between "conventional technology" and what could be termed "the technology of the artificial." By tracing out the implications of this distinction in areas such as biology and ecology, he introduces the idea of "exemplars" which are selected by designers to guide their work. What follows is an intriguing exploration that culminates in a proposed "third reality," midway between natural reality and the reality of conventional technology.

Though more and more people recognize that design is a discipline in its own right, the issue is not settled. Wolfgang Jonas takes up the problem of explaining design as a discipline through an exploration of earlier efforts to move design toward adequate theory in the major design schools of the twentieth century, the Design Methods Movement, and contemporary issues of epistemology. Notably, he then turns toward Niklas Luhmann's theory of social systems and the concepts of autonomous systems and autopoiesis – the concept of living systems. Jonas argues that design must become an autonomous system if it is to fulfill its proper function in society. "The guiding idea is that design, if it intends to act generatively, has to become an autonomous system itself (theory)." In essence, if design is reduced to other autonomous systems – i.e. other disciplines – it loses its identity and its functional purpose. What follows is a useful discussion of systems theory and its relevance to understanding design and the work of designing. However, a systems approach to the autonomy of design stands in need of an appropriate methodology that serves to characterize the design process. That methodology, for Jonas, lies in a scenario-based activity, addressing issues of Analysis, Synthesis, and Projection. Indeed, for Jonas, scenario-building is one of the central concepts of design, developed through a variety of types or kinds of scenarios that work together in the process of designing. The remainder of the article is a discussion of the various implications of scenarios for designing and, ultimately, for design research.

1

BRANZI'S DILEMMA: DESIGN IN CONTEMPORARY CULTURE

Richard Buchanan

This article was originally presented as a keynote address at "Design: Pleasure or Responsibility," an international conference held at the University of Art and Design Helsinki in June 1994. The address was subsequently printed in *Design: Pleasure or Responsibility?* edited by Päivi Tahkokallio and Susann Vihma, University of Art and Design Helsinki, 1995. The author is grateful for the innovative work at UIAH and for the encouragement of Yrjo Sotamaa, President of UIAH.

INTRODUCTION

My subject today is a challenge faced by many individuals and groups in the new circumstances of contemporary culture: how to find identity and moral purpose when central values are *essentially contested.* I call this challenge Branzi's dilemma because the problem was stated with elegance and clarity by Andrea Branzi in a 1985 essay called "We Are the Primitives."[1] I cite this essay neither because I agree with Branzi's way of solving the problem nor because I intend to discuss his philosophy of design in detail. Rather, it provides a useful way to focus attention on one of the fundamental changes that have taken place in design over the last two decades, a change that continues to unfold with gathering force in directions that few people can anticipate and no one can entirely comprehend. The occasion that draws us together, a conference on pleasure and responsibility in design, is a sign of that change.[2] Whether by accident or forethought, the organizers have selected one of the variations of Branzi's dilemma as our theme, and we will address this theme from a variety of perspectives. However, I want to raise a cautionary note before we begin. We should be concerned that unless the deeper dilemma that stands behind our discussions is well understood, we may simply repeat old doctrines or propound new dogmas, contributing little to the advance of design at a time when its disciplines and professions require thoughtful reconsideration that goes beyond ideology.

Perhaps the current situation would not present difficulty if the direction of design rested entirely in the hands of designers. In such a case, where we *would* go, we *shall* go in addressing the issue of pleasure and responsibility. Indeed, this is how some designers prefer to see the current situation, and they act accordingly. But the direction of design is not entirely in the hands of designers, no matter how much we cling to the old mythic idea of the designer as a heroic cultural figure leading the avant-garde. No doubt, there will always be an avant-garde. This is what sustains confidence among some people that the heroic model of design will remain adequate to new challenges – and there is a tincture of truth in this confidence. However, the fate of design does not lie entirely within the framework of design culture or in the hands of a few gifted individuals. It lies within the framework of culture as a whole.

This framework is changing before our eyes, altering the attitudes of the public, the environment of corporations, and the way we understand all of the professions with which we must collaborate in developing new products. I do not mean the constantly changing surface of culture, the ever-new, ever-shifting fads and styles that emerge and are discarded in the pursuit of novelty. This aspect of twentieth-century culture is what art critic Harold Rosenberg calls the "tradition of the new."[3] Surface changes will go on continuously because it is in human nature to seek out new experiences and expressions. Instead, what I am referring to is the philosophic engine that stands behind culture: the fundamental issues, problems, and ideas that are shared with varying degrees of understanding by all participants.

This engine is what Branzi perceives in his essay, and his perception is strengthened precisely because he is uncomfortable with the form that the new engine has taken. I believe he understands, at least in principle, that the cultural and philosophic revolution that began in the early decades of the twentieth century has taken another turn and continues to move forward with unabated force to the present. Indeed, Branzi deserves credit for the courage to engage the new cultural issues. Unlike Paul Rand, who fought bitter rear-guard skirmishes and then retreated to lofty silence, Branzi attempts to understand the philosophy of design in the context of current problems, despite the attacks to which he has been subjected by some members of the old guard and by many of the new guard. His voice has remained a presence in the pluralism of contemporary design, emphasizing the continued importance of aesthetics and artistic experimentation.

However, I do not intend this to be a paean to Andrea Branzi. Branzi is a participant in the new culture, but his response is idiosyncratic. His idea of a "second modernity" evades the deeper problem which design confronts in the contemporary world. We need Branzi and his artistic vision, but we do not know exactly why – and I am not convinced that he can adequately explain why. There is danger for design in a retreat to aesthetic self-expression, and there is hopelessness if the elegance of art is not included in its new visions.

THE DILEMMA OF IDENTITY AND MORAL PURPOSE

The circumstances of Branzi's dilemma are quite familiar by now, heralded in what some people refer to as the collapse of modernism. As he explains in his essay, the ideals of modernism no longer provide the unifying ideology of design and world culture. Those ideals, expressed in a variety of ways among the many forms of modernism, pointed towards the continual improvement of the human condition – in some minds perhaps even the perfection of humanity – through progress in art, design, and technology. However, the "ideological parachute" of modernism, Branzi says, no longer works.

> Culture and design no longer are forces that slowly but heroically move the world toward salvation through logical and ethical radicalism. They are mechanisms of emotions and adaptations of changes that fail to drag the world toward a horizon; they only transform it into many diffuse diversities. Progress no longer seems to be valued; instead, the unexpected is valued. The grand unitarian theorems no longer exist, nor do the leading models of the rational theologies. What exists is modernism without illuminism. We are witnessing a definitive and extreme secularization of design, within which design represents itself and no longer is a metaphor for a possible unity of technologies and languages.[4]

Whether we agree with the accuracy of Branzi's account is not the issue. It is an adequate account for present purposes, because it enables us to focus on one of the central problems of contemporary culture: if there is no unifying ideology shared by the design community and world culture as

a whole, where does the individual find identity and moral purpose?

This problem immediately leads to what I have called Branzi's dilemma. It is a dilemma because both of the obvious alternatives to the contemporary problem of finding identity are either distasteful or dangerous. One alternative is to substitute a new general ideology for the old ideology, perhaps resuscitating a modified form of "modernism." I believe this is eventually what Branzi attempted to do three years later with the publication of *Learning from Milan*, particularly in the chapter "Toward the Second Modernity." After a brief and very insightful discussion of the changing nature of materials and technology, he explains the nature of his proposed second modernity: "What I mean by this term is an acceptance of Modernity as an artificial cultural system based neither on the principle of necessity nor on the principle of identity but on a set of conventional cultural and linguistic values that somehow make it possible for us to go on making choices and designing."[5]

Recognizing the Eurocentric origins of modernism, Branzi in effect capitulates to theorists of the postmodern by repudiating any substantial value in the various forms of modernism. He turns away from the value and integrity of identity to embrace conventional values. Furthermore, he proposes for the second modernity an agenda that amounts to a retreat to the themes of power and control in design. These are the themes which many of the leaders of design in the earlier decades of the twentieth century sought to oppose in public and corporate culture, too often without success. They are expressed in the destructive sophistry of the idea of art for art's sake and in the original version of this idea in economics: business for business's sake.

> Modernity represents the point of aggregation around which the European nations have attained the maximum of their potential, both industrial and humanistic. All in all it is the product of a range of technological and linguistic imagery, highly recognizable and acknowledged as the child of this continent. What is needed is to apply a strategy of international communication to it, converting Modernity into a commercial and political system. Culture is a great added value. It should be regarded not as indispensable and necessary but as the best sauce with which to season the development of postindustrial society. So it will be an enthusiastic Second Modernity, made up of new European sensations to be distributed round the world. It could be very good business.[6]

I cannot conceal the bitterness I feel about this proposal. From someone of less accomplishment than Branzi, it would be no more than a cynical gesture, born of a failure of imagination and ingenuity. Yet, we must take it seriously and examine its implications.

The steps leading to this proposal were prepared three years earlier in the essay we are discussing. In this essay, Branzi details his initial alternative to the dilemma of identity in the contemporary world, an alternative that is strikingly different from substituting a new general ideology for the old ideology of modernism. He suggests that without a unifying ideology in the culture around us, each individual must look within himself or herself for the original key – the language and code – of personal identity. There is no longer a world culture; there are only individuals, each grappling to make personal order and sense out of an increasingly complex world. Indeed, in 1985 Branzi suggests that this is the only viable alternative, and he embraces this side of the dilemma, expressing only mild regret and disappointment – something more than nostalgia but less than determined and well-argued resistance. An optimist, he tries to direct attention toward the positive features of the new cultural climate.

> Complexity, real and theoretical, is spreading. Lacking in the postindustrial society is that unified symbolic universe capable of integrating various institutional environments and the

Alexander[8] and Jones[9] to retreat from the field. Nonetheless, long-term influences have been produced.

Working on the basis of short-term theories has had the side effect of fundamental work increasingly being neglected. The disciplinary infrastructures to do this autonomously waste away or even disappear completely. Unlike medicine, another academic discipline aiming at practice, the necessity of continuous theory work is not widely acknowledged. This is a vicious circle, driving design into the poor role of an auxiliary profession of economy or marketing, not really responsible for its contributions to culture. Theory, mostly about design, is left to those reflecting disciplines as philosophy or cultural sciences, which normally do not care much about design's fitness for its crucial, everyday function of shaping our way of living. Figure 3.1 illustrates this "shifting-the-burden" pattern[10] in systemic language.

There still seems to be too little internal complexity to deal with increasing external complexity. The "critical mass" of coordinated efforts to produce reliable foundations has not yet been reached. This weakness of discourse and value system weakens design's ability to communicate with established disciplines such as economics or engineering on an equal basis. Other disciplines (including marketing) speak for design instead. Of course, there are a few individuals who are "Starck" enough to communicate according to their own rules, acting rather as a prima donna than as a partner.

3 WHAT IS SPECIAL ABOUT DESIGN?

The question is: How can design achieve autonomy? Design has not (yet?) reached the status of science, art, technology, and economics. Ongoing definitory attempts which revert to previously established areas include those of the Bauhaus, New Bauhaus, and Ulm schools. They might be useful, at best, as negations. Design is *not art* because it does not aim at individual expression, but instead to serve various stakeholders, even though there are all of those intuitive, creative, and individual components. Design is *not technology* because it deals with fuzzy, discursive criteria rather than objective criteria, even though design shares many functional objectives. Design is *not science* because it does not offer new explanatory models of reality, but changes reality more or less purposefully, and yet the experimental process of research resembles the design process. Obviously, design is something very special.

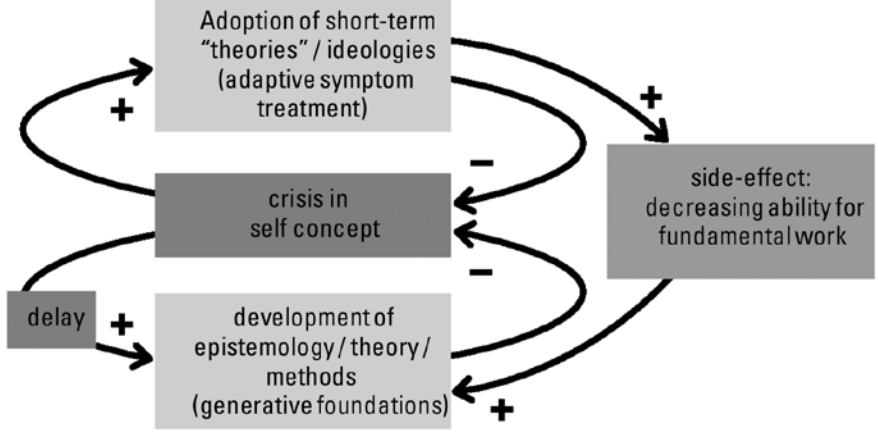


Figure 3.1 Creating generative foundations seems to be a necessary intervention for overcoming learning pathologies in design.

Table 3.1 Two Recent Attempts to Redefine Designing.

Reinterpretation	Functional Definition
Bonsiepe[12]	Jonas[13]
Design is a domain which can manifest itself in *every area of human knowledge and practice*.	
Design is oriented towards the *future*.	Design is *anticipative* (looking ahead, in different directions and time scales).
Design is related to *innovation*. The design act introduces something new into the world. Design is *generative* (aiming at the synthesis of material or immaterial artifacts and patterns of behavior).	
Design is tied to *body and space*, especially the retinal space.	
Design aims at *effective action*.	Design is *use-oriented* (taking quality of life as its criterion, without claiming to know what this is).
Design is fixed at *language* in the area of assessments.	Design *is illustrative* (creating wholes, contexts, narratives, aiming at agency and dissemination).
Design aims at the *interaction of user and artifact*, acting in the domain of the interface.	
	Design is *integrative* (neglecting disciplinary boundaries, moderating perspectives, and including its own).
	Design is *context sensitive* (being aware of and using social, cultural, technological interdependencies).

Glanville[11] uses the similarities in design and the research process to perform a complete "U-turn," arguing that design thinking should be the model for scientific research. Though very appealing, it really is not a solution since it shifts the burden of basic explanation to design, the weakest part of all. While design, in fact, is a cross-discipline and integrates various expert fields, it cannot be basic to everything else. Instead, it should be conceived as an expert discipline of a special kind: for integration, relation, and meaning. There have been numerous attempts to redefine design.

Theory-building has to consider that design, in aiming at "solutions," needs a theory for practice to deal with complex entities of different types (material, cognitive, and social) so that some kind of "systemic" concept seems inevitable. Design is future-oriented and, of course, serves people and social institutions. This is not to stress human-centered nature; there is nothing other than people to design for, with the possible exception of self-conscious machines. Yet it does emphasize that design, for the most part, is a matter of fuzzy, changing, cultural criteria as opposed to scientific criteria. There is ongoing negotiation between stakeholders of perspectives, with the goal of understanding each other's viewpoint. Design changes the world and, in turn, is changed by these changes.[14]

To derive the requirements for the framework, we should distinguish human operations by their orientation in time. They are either forward-oriented, aiming at purposeful action (called practice), or backward-oriented, aiming at reflection,