



The Artist is Present? Concepts of Individual and Collective Creativity in the GDR

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Zusammenfassung

Ausgehend von den Ergebnissen des DFG-Projekts zu Architektur- und Planungskollektiven in der DDR werden in diesem Beitrag unterschiedliche Interpretationen von Kreativität im Kontext des DDR-Bauwesens analysiert. Insbesondere wird gefragt, welche Arbeitsprozesse in Architekturkollektiven als (besonders) kreativ verstanden wurden. Dieser Beitrag basiert auf der These, dass Kreativitätsdiskurse insbesondere in den 1980er Jahren auch Ausdruck eines wachsenden Anspruchs auf Selbstentfaltung und Individualität in der DDR-Gesellschaft waren. Zunächst wird Kreativität allgemein als ideologischer Begriff dargestellt, um das Thema zu kontextualisieren und eine historische Perspektive zu eröffnen. Im Anschluss daran werden drei architekturenspezifische Bereiche analysiert, in denen Kreativität relevant ist: Zunächst beschäftige ich mich mit übergreifenden Theorien, die die Rolle der Architekt*innen im Sozialismus beschreiben und der damit verbundenen Verwendung des Begriffs „Kreativität“. Die Schriften der Architekten Herbert Ricken und Gerhard Kosel dienen als Beispiele, um Kreativität an der architekturenspezifischen Schnittstelle zwischen Technik und Kunst zu verorten. Darüber hinaus befasse ich mich mit dem Erlernen und der Förderung von Kreativität in den Arbeitszusammenhängen von Architekturkollektiven. Untersucht wird zum Beispiel die Einführung eines Ausbildungsprogramms zur Förderung von Kreativität durch die Bauakademie der DDR in den 1980er Jahren. Schließlich werden Debatten über die veränderte Rolle von Kreativität durch die Entwicklung des computergestützten Entwerfens (CAD) erörtert. Dort geht es um die Frage, ob CAD die Kreativität fördert, da der Computer die Routinearbeit übernimmt, oder ob die individuelle Ideenfindung durch den Computer unterdrückt wird.

Abstract

Building on the results of a DFG project on architectural and planning collectives in the GDR, this article analyzes various interpretations of creativity in the context of the GDR's construction industry. In particular, the article asks which work processes in architectural collectives were understood to be (particularly) creative. The article is based on the thesis that discourses about creativity, especially in the 1980s, were also an expression of a growing demand for self-development and individuality within GDR society. To this end, creativity is presented in general terms as an ideological notion to contextualize the topic and provide historical perspective. Subsequently, I analyze three architecture-specific areas in which creativity is relevant: First, I deal with overarching theories that describe the role of the architect under socialism and those theories' use of the term "creativity". Writings by the architects Herbert Ricken and Gerhard Kosel serve as examples to illustrate the location of creativity at the architectural intersection between technology and art. In addition, I address the learning or fostering of creativity in the workplaces of architectural collectives. The article will examine, for example, the introduction in the 1980s by the GDR's Bauakademie ("building academy") of a training program to promote creativity. Finally, debates concerning the changing role of creativity due to the development of computer-aided design (CAD) will be discussed. The question here is whether CAD promotes creativity, since the computer takes over routine work, or whether the individual's conceptualization of ideas is suppressed by the computer.

Introduction

In the history of architecture, creativity evokes the image of an architect as an artist who creates a brilliant design.¹ Expectations such as individuality, spontaneity or artistic freedom are often considered preconditions for creative architectural work. In addition, creativity and singular authorship often enter into a symbiosis because uniqueness and a characteristic *œuvre* are perceived as indispensable preconditions for both the attribution of authorship and the legitimation of creativity.² Thus, the perception of architecture as a collective, cooperative or collaborative work process seems to contradict common descriptions of creativity. The socialist architectural collective in particular, as a supposedly uniform, rigid and anonymous working group, lacks essential characteristics associated with creativity, such as an individual signature or evidence of a free-spirited working process. Even when the collective achievement of architecture is highlighted, historiography often foregrounds the particularity or signature style of the collective to justify the creativity of a design like in the case of the collective architecture of the Bauhaus. As a result, narratives of the one brilliant collective transfer the grand narrative of the genius to a chosen group of architects and reproduce common tropes. This paper challenges these pre-established narratives by analyzing different understandings of creativity. In doing so, the article focuses on the description of collective architectural work processes in the context of the building industry of the GDR.³ Under socialism in the GDR, the building industry became part of the state apparatus. Architects thus worked together collectively in so-called *Volkseigene Betriebe* (state-owned companies).⁴ Different approaches to creativity emerged in the GDR in order to describe collective architectural work as creative. These approaches pertain among other things to three different areas this paper addresses, namely:

- Theories on the role of architects in socialist society
- The practical training of creativity
- Creativity and architectural drawing

As I argue, socialist approaches deviate in part from the individualistic conceptions of creativity, outlined above, that we still take for granted today. This divergence is not coincidental but constitutes a conscious choice, as I shall further highlight.

Creativity and Ideology

In general, research on creativity from the GDR and the FRG proves that creativity was a politically charged concept during the Cold War. In a 1977 book, for example, creativity researchers Hans-Georg and Gerlinde Mehlhorn provide evidence of their doubts about capitalist and bourgeois creativity research from a socialist perspective. They published several writings on the topic of gifted education and creativity in the GDR, including *Begabung, Schöpfung, Persönlichkeit* ("Talent, Creativity, Personality", 1985) and *Man wird nicht als Genie geboren* ("One is not born a genius", 1987).⁵ Gerlinde and Hans-Georg Mehlhorn were professors teaching in Leipzig, the former educational sociology, the latter educational psychology. The Mehlhorns interpreted creativity research in the West as a sign of capitalism's decay. According to their interpretation, western research on creativity promotes creativity as an economic innovation factor in order to stabilize the damaged capitalist system. To their minds, the Sputnik crisis of 1957 had, in particular, placed capitalism under pressure.⁶ Hence, according to the Mehlhorns, creativity research in the West clearly experienced a peak after 1957. The Mehlhorns outline how, under capitalism, creativity is only possible within narrow limits because people did not identify with and exploit themselves for their work. Furthermore, they maintained, to conceal the fact that the restriction of creativity in capitalism is due to social constraints, Western creativity researchers psychologize the concept and reduce it to the spontaneous ideas of select persons⁷ while, in socialist science, creativity does not depend on coincidence, but is consciously controlled as a collective work process. The more efficiently and rationally people work together under socialism, they hold, the more scientific progress and creativity emerge.⁸ The Mehlhorns' ideas describe creativity as a political concept and their analysis attempts to demonstrate socialism's superiority over capitalism. From their perspective, efficiency, collectivity and rationality, in particular, are advantages socialism has over capitalism.

Surprisingly, there are parallels between the Mehlhorns' theories and current research on the role of creativity in capitalist society, which shows that ideologies of creativity are not limited to socialist countries but are also present in Western nations, such as the FRG or the USA, as sociologist Andreas Reckwitz makes clear in his standard 2012 work on creativity, *Die Erfindung der Kreativität* ("The Invention of Creativity"), in which he describes the ideology of creativity in Western countries. According to Reckwitz, creativity

became a normalized social aspiration in the 1950s and was associated with the self-actualization of the subject within the framework of so-called self-growth psychology. Moreover, intelligence research transformed creativity into a potential that, in capitalist society, every individual need take advantage of. Since the 1980s, Reckwitz elaborates, a socially widespread praxeology of creativity has developed, building on self-growth and intelligence research. According to Reckwitz, the paragon of these different practices of creativity is the artist, an ideal whose innovative powers individuals should emulate. As a result, creativity has become an everyday expectation that fuels permanent competitiveness between subjects in capitalism.⁹

In writings on architectural theory in the GDR, the Mehlhorns' assumption that efficiency, rationality and scientific progress led to more creativity plays a significant role. On a professional level, the correlation of creativity with efficiency entailed the rejection of the bourgeois architect-artist and its replacement with the propaganda of the architect as an organizer of complex, collective work processes. The ideal of the architect-artist does not simply disappear, however, but makes itself latently felt in texts. In the following section, I shall take a closer look at the contradictory figure of the architect in socialism.

Creativity and the Role of Architects in Society

The architect Herbert Ricken (1924–2007) published repeatedly on the professional image of the architect and explicitly dealt with notions of creativity on a theoretical level.¹⁰ His most famous publication is probably *Der Architekt*, a survey of the architectural profession published in 1977.¹¹ In 1968 Ricken attempted to automatize the “architectural creative process” in an article published in the professional journal *Deutsche Architektur* (“German Architecture”). The aim of his argumentation was to transform the architectural creative process into a science, and thereby to make it transparent and reproducible. Nevertheless, Ricken concludes that for what he considers to be the essential activity of the architect – namely, to develop designs – neither knowledge nor organization are decisive, but rather the “creative ability on the basis of his or her imagination”.¹² Despite his attempt to reform architectural work, Ricken describes the most important ability of the architect as imagining a design. Another word for Ricken's description might be talent. In his 1977 survey of the architectural profession, Ricken addresses the relationship between science and creativity as a challenge to the development of the GDR. Although the technical and social developments of socialism enhance the “creative power of the

architect”, Ricken rejects the subordination of creativity through a scientification of the planning process. On the contrary, Ricken defines creativity as a key competence of the architect. According to Ricken, the basis of creatorship is individual artistic will.¹³

Within architectural theory, Herbert Ricken was not the only one to discuss the social location of architecture at the boundary between technology and art, and in doing so to repeatedly address the role of creativity. Another example is Gerhard Kosel (1909–2003), who was president of the Bauakademie from 1961 to 1965 and who advocated a radical scientification of architectural work as a collective effort. However, in his writings – such as his 1957 *Theory of Science* and his 1989 autobiography – Kosel ultimately concedes that the existence of unique creative geniuses legitimizes his own claims to pre-eminence in architecture.¹⁴ In his autobiography, for example, Kosel explicitly describes “creativity” as the ability to summarize general experiences and to give shape to these experiences in the form of innovation. It is this ability, according to Kosel, that generates and characterizes genius.¹⁵

Ricken and Kosel represent how the operationalization of architectural work competed with the legitimization of individual architects as significant personalities. On the one hand, architects, journalists, scholars and other commentators argued that scientification and technical progress released new collective forces while, on the other hand, they also argued in favor of singular performance. The ideological aspect to creativity plays a role here, as does the image of the architect as creative genius. Another reason why the architect-artist as an individualistic ideal did not completely vanish was certainly that the state apparatus in the GDR functioned hierarchically and according to a principle of individual leadership.¹⁶ Consequently, even within collectively organized work structures, there were individual leadership claims that required legitimization.

Creative Learning

Ricken's and Kosel's approaches conceptualize work processes systemically and are less concerned with specific working conditions or creativity promotion within certain collectives. However, there were also efforts to establish training courses to enhance creativity. From the late 1970s and 1980s onward, training programs and courses for architects and engineers were set up to practice creativity collectively. For example, a newspaper article from 1980 advertises courses on creativity in which 2300 engineers had already participated.¹⁷ At the GDR's Bauakademie,

a training program for the promotion of creativity was offered in cooperation with the state-owned Carl Zeiss Jena enterprise. From the early 1980s, there was also a Training Center for Scientific-Technical Creativity (*Trainingszentrum für wissenschaftlich-technische Kreativität*) at the Bauakademie.¹⁸ The training courses focused on the targeted development of creative managers by practicing collective problem solving. These creativity courses were also offered internationally under the name *creativity training center (ctc)*. Between 1986 and 1989, 110 participants from various Eastern Bloc countries attended the seminars.¹⁹ From 1988 onward, courses took place in the FRG, Austria and Switzerland.²⁰ In addition, the leading scientists of the program published eighteen instructional letters (*Lehrbriefe*) on the fundamentals of scientific-technical creativity.²¹

An instructional letter from 1986, for example, outlines conditions required for collectives to work more creatively. Hierarchical management is advocated, but at the same time individual freedom is supposed to be essential for creative problem solving. The instructions emphasize the role of individual development in increasing efficiency.²² In addition, they explained, members of the collective must be allowed to express criticism openly²³ and, according to the instructions, the collective must recognize individual successes. One principle espoused is that of “respecting and honoring the individuality of each member.”²⁴

Comparing the practical training of creativity with theoretical discourses in the GDR that I have observed, the courses understand creativity not as an abstract notion within a grand theory about the self-image of architects in socialist society. Instead, the focus is on how to create favorable conditions for a creative working environment. The instructional letters, in particular, conceptualize creativity as a skill that serves problem solving and is a component of personality development. From this perspective, the ideas formulated in the 1980s somewhat resemble today’s perspectives dealing with the promotion of creativity in work groups. For example, a good working atmosphere and individual freedom are frequently understood to support creativity.²⁵ The export of training courses from the GDR to Western countries in the 1980s also shows that this form of creativity promotion could be adapted there.

Overall, the findings of the DFG research project show that creativity promotion was increasingly linked to individual personality development from the 1970s onward. Our research thus suggests that while creativity was an ideological concept by

means of which theorists distinguished socialism and capitalism from one another, individualistic understandings of creativity and approaches to personality development emerged in the GDR toward its end. These late approaches more demonstrate an exchange of knowledge than a distinction from capitalist ideas. Even after reunification, concepts of creativity from the GDR were applied.²⁶

Creative Drawing

In the last part of my paper, I shall relate the findings of the research project to creativity and architectural drawing, since the introduction of computer-aided design (CAD) in the 1980s marked a turning point in debates on creativity. In the GDR, there was tense discussion of the possibilities and limits of CAD. Both actual innovations and visions of the future had a place in these debates. Until 1990, implemented changes in architectural work tended to involve electronic data processing or simplified forms of automatic drawing. These innovations were not perceived as threats to the idea of creative architectural design.²⁷ On the contrary, the elimination of repetitive working steps was supposed to reduce the workload and thus enhance creativity. In 1964, Hermann Elze, deputy director of the Institute for the Theoretical Principles of Engineering at the German Building Academy (*stellvertretender Direktor des Instituts für ingenieurtheoretische Grundlagen der Deutschen Bauakademie*), wrote that the goal was to transfer all work steps which “do not require creative decisions on the part of humans” to machines and automatic calculators in order to give architects more time for the creative aspects of design.²⁸ In another article in the magazine *Architektur der DDR* (“Architecture of the GDR”) from 1977, this assumption still holds. Here it is assumed that creative design forces are released in dialogue with the computer. The example given in the article is the calculation of apartment keys with the help of electronic data processing.²⁹ From my research, it is only in the 1980s that the debate appears to grow about whether CAD exclusively unleashes creativity or potentially limits or changes creative work.

In 1987, for example, Horst Wieland of the Institute for Planning and Standardization (*Institut für Projektierung und Standardisierung*) said that the direct use of computers at the workplaces of designers and the immediate processing of graphical information at the workplace would result in a “new kind of creative design work”.³⁰ In 1988, an entire issue of the magazine *Architektur der DDR* was published that dealt with CAD. Architect Claus Weidner summarizes his concerns about the new technology in the issue:

“In their attitude to computers and CAD technologies, architects, just as in other professions, are divided: Some, full of euphoria and wishful thinking, back a horse whose performance they hope will be fabulously high; others immediately crawl into the corner of creative design, point to the actual teething troubles of CAD systems, and are quick to have terms like creativity and innovation at hand.”³¹

Overall, Weidner insists in his article that the sensible use of CAD promotes creativity because the computer takes over routine work. He thus adopts the familiar argument of the computer as a stimulant of creativity.³² At the same time, there are also voices that plead for an appreciation of hand drawing in the 1980s. For example, Carl Krause of the Institute of Urban Planning and Architecture (*Institut für Städtebau und Architektur*) describes hand drawings as an expression of architecture as an art form and of the creativity of architects.³³

The rationalization and scientification of architectural work was discussed in relation to creativity and its role for the architectural profession with regard to design tools. A similar dichotomy can be traced in the theoretical work of Kosel and Ricken. Specifically in the context of drawing and creativity, a tendency emerged in the 1980s according to which the increasing introduction of CAD processes intensified a discussion revolving around the individuality and spontaneity of architectural drawing. Thus, the focus was increasingly on creativity as manifested in individual and spontaneous design ideas that could not be replaced by a machine. The collective is thus less emphasized than, for example, in the approaches to learning creativity presented above.

Conclusion

Creativity will ultimately always remain an elusive concept. As a consequence, it can easily be used for ideological and political purposes. The sources presented here have shown that the GDR instrumentalized creativity in order to present the socialist state as the superior and more creative economic system. While Kosel's and Ricken's theoretical reflections on creativity largely focused on the systemic level, and they sometimes spoke vaguely of a collective release of creativity through scientific progress, from the end of the 1970s onwards these views were complemented by a proliferation of approaches that make proposals for specific working conditions promoting creativity. Among other things,

harmonious cooperation among the group and competent leadership, but also aspects such as time for reflection or good organization within the companies involved in the construction are mentioned as preconditions for collective, creative work processes. In addition, architects discuss possible changes in architectural work from the implementation of CAD. One major aspect in this discussion is a potential change in the role of creativity within the design process.

From the perspective of my research, a thesis of the emergence of an individualistic idea of creativity from the 1980s can be put forward. Individualistic creativity also means a growing desire for personal branding in the GDR, similar to what Andreas Reckwitz has also noted from the 1970s in the FRG.³⁴ Iris Häuser regards reunification as the result of a long-term development in the GDR, which was also related to a change in people's lifestyles and an increased need for self-development, self-responsibility and individuality.³⁵ The emergence of the term “creativity” in the 1980s seems to have been an expression of this need, as it referred to discourses concerned with individual freedom and the possibilities of development within the collective. Creativity depended on a good working atmosphere and the possibility to freely exchange ideas with each other. After 1990, an assumption quickly prevailed that there was virtually no creativity in the GDR, especially in the construction industry.³⁶ However, a close examination shows that creativity was discussed and even promoted by the state in the GDR – even though we may have a different understanding of creativity today. It also becomes clear how much the linking of creativity and individuality obscures an awareness of the fact that creativity in architecture can certainly also be conceptualized as the collaboration of a group.

Notes

- ¹ EXAMPLES OF LITERATURE DEALING WITH THE IMAGE OF ARCHITECTS THROUGHOUT EUROPEAN HISTORY ARE: MATTEO BURIONI, *DIE RENAISSANCE DER ARCHITEKTEN. PROFESSION UND SOUVERÄNITÄT DES BAUKÜNSTLERS IN GIORGIO VASARIS VITEN*, BERLIN 2008, PP. 9F.; KLAUS JAN PHILIPP, “VON DER ICHNOGRAPHIE VITRUVS BIS DIN 1356-1. PROLEGOMENA ZU EINER GESCHICHTE DER GRUNDRISSDARSTELLUNG”, IN: *DIE QUADRATUR DES RAUMES. BILDMEDIEN DER ARCHITEKTUR IN NEUZEIT UND MODERNE*, ED. MONIKA MELTERS AND CHRISTOPH WAGNER, BERLIN 2017, PP. 200–211, HERE P. 210; GÜNTHER BINDING, *MEISTER DER BAUKUNST. GESCHICHTE DES ARCHITEKTEN- UND INGENIEURBERUFES*, DARMSTADT 2004, P. 146.
- ² TOBIAS ZERVOSEN, “‘IHR GANZES LEBEN LANG SIND MENSCHEN PLÄNEMACHER. ICH BIN EINER VON BERUF.’ BESCHREIBUNGEN VON KREATIVITÄT UND KREATIVEM HANDELN IN ARCHITEKTENBIOGRAPHIEN”, IN: *DAS EIGENE LEBEN ALS ÄSTHETISCHE FIKTION. AUTOBIOGRAPHIE UND PROFESSIONSGESCHICHTE*, ED. DIETRICH ERBEN AND TOBIAS ZERVOSEN, BIELEFELD 2018, PP. 39–56, HERE PP. 39–45.
- ³ THE EXAMINATION PROVIDES INSIGHTS INTO THE RESULTS OF THE DFG-FUNDED RESEARCH PROJECT ON CREATIVE PROCESSES IN ARCHITECTS’ COLLECTIVES IN THE GDR. DETAILS ON THE PROJECT SEE INTRODUCTION.
- ⁴ THOMAS TOPFSTEDT GIVES AN OVERVIEW OF THE HISTORY OF COLLECTIVIZATION IN THE GDR’S BUILDING INDUSTRY: THOMAS TOPFSTEDT, “VOM BAUKÜNSTLER ZUM KOMPLEXPROJEKTANTEN. ARCHITEKTEN IN DER DDR”, IN: *VOM BAUKÜNSTLER ZUM KOMPLEXPROJEKTANTEN. ARCHITEKTEN IN DER DDR. DOKUMENTATION EINES IRS-SAMMLUNGSBESTANDES BIOGRAPHISCHER DATEN*, ED. DIETRICH FÜRST AND HOLGER BARTH, ERKNER 2000, PP. 9–26.
- ⁵ GERLINDE MEHLHORN, HANS-GEORG MEHLHORN, *BEGABUNG, SCHÖPFERTUM, PERSÖNLICHKEIT. ZUR PSYCHOLOGIE UND SOZIOLOGIE DES SCHÖPFERTUMS*, BERLIN 1985; GERLINDE MEHLHORN, HANS-GEORG MEHLHORN, *MAN WIRD NICHT ALS GENIE GEBOREN. EIN PLÄDOYER FÜR DIE BEGABUNGSENTWICKLUNG*, BERLIN 1987.
- ⁶ GERLINDE MEHLHORN, HANS-GEORG MEHLHORN, *ZUR KRITIK DER BÜRGERLICHEN KREATIVITÄTSFORSCHUNG*, BERLIN 1977, PP. 48–50.
- ⁷ *IBID.*, PP. 177F.
- ⁸ *IBID.*, PP. 109–124.
- ⁹ ANDREAS RECKWITZ, *DIE ERFINDUNG DER KREATIVITÄT. ZUM PROZESS GESELLSCHAFTLICHER ÄSTHETISIERUNG*, BERLIN 2012, PP. 215–232.
- ¹⁰ TOBIAS ZERVOSEN, *ARCHITEKTEN IN DER DDR. REALITÄT UND SELBSTVERSTÄNDNIS EINER PROFESSION*, BIELEFELD 2016, P. 225.
- ¹¹ HERBERT RICKEN, *DER ARCHITEKT*, BERLIN 1977.
- ¹² HERBERT RICKEN, “NEUE PROBLEME DER ARCHITEKTURTHEORETISCHEN FORSCHUNG. DER ARCHITEKTONISCHE SCHAFFENSPROZESS UND DER ARCHITEKT”, IN: *DEUTSCHE ARCHITEKTUR*, ISSUE 1, 1968, PP. 45–47, HERE P. 47.
- ¹³ RICKEN, *DER ARCHITEKT*, 1977, PP. 163F.
- ¹⁴ GERHARD KOSEL, *UNTERNEHMEN WISSENSCHAFT. DIE WIEDERENTDECKUNG EINER IDEE*, BERLIN 1989; GERHARD KOSEL, *PRODUKTIVKRAFT WISSENSCHAFT*, BERLIN 1957.
- ¹⁵ KOSEL, *UNTERNEHMEN WISSENSCHAFT*, 1989, P. 212.
- ¹⁶ RAINER M. LEPSIUS, “DIE INSTITUTIONSORDNUNG ALS RAHMEBEDINGUNG DER SOZIALGESCHICHTE DER DDR”, IN: *SOZIALGESCHICHTE DER DDR*, ED. JÜRGEN KOCKA, HARTMUT KAEUBLE AND HARTMUT ZWAHR, STUTTGART 1994, PP. 17–30, HERE P. 25.
- ¹⁷ NZ/ADN, “KDT LÖSTE WERTVOLLE VERPFLICHTUNGEN EIN. 2280 VORHABEN DIENEN VIELEN SPITZENLEISTUNGEN MIKROELEKTRONIK IM ZENTRUM DER WERTERBILDUNGSARBEIT”, IN: *NEUE ZEIT*, APRIL 6TH, 1981, PP. 1.
- ¹⁸ KLAUS STANKE, “KOMPLEX 2: DIE INSTITUTIONALISIERUNG DER SYSTEMATISCHEN HEURISTIK, IHRE NACHFOLGEPROZESSE UND GEWONNEN ERFAHRUNGEN”, IN: *50 JAHRE SYSTEMATISCHE HEURISTIK*, ED. PETER KOCH AND KLAUS STANKE, NORDERSTEDT 2021, PP. 89–150, HERE PP. 125–128.
- ¹⁹ *IBID.*, PP. 132F.
- ²⁰ AT LEAST ACCORDING TO A WEBSITE DOCUMENTING THE ACTIVITIES OF THE TRAINING CENTER: VOLKER HEYSE, “GANZHEITLICHE TALENTFÖRDERUNG ZUR KREATIVEN KOMPENZENTWICKLUNG - /ctc/ - KREATIVITÄTSTRAINING DER BAUAKADEMIE DER DDR”, [HTTP://WWW.PROBLEMLÖSENDEKREATIVITÄT.DE/GESCHICHTE-HISTORIE-DER-PROBLEMLÖSENDEKREATIVITÄETN.HTML](http://www.problemlösendekreativitaet.de/geschichte-historie-der-problemlösendenkreativitaetn.html) (20/11/2020).
- ²¹ KLAUS STANKT, *KREATIVE BEARBEITUNG TECHNISCH-NATURWISSENSCHAFTLICHER. PROBLEME IN INTERDISZIPLINÄREN GRUPPEN*, BERLIN 1987.
- ²² FOR EXAMPLE, “INDEPENDENCE” AND “FREE DEVELOPMENT” ARE CITED AS FACETS OF CREATIVE WORK: KLAUS LADENSACK, WALTRAUT LADENSACK AND JIRI BENÉS, *SCHÖPFERISCHES KOLLEKTIV UND SOZIALISTISCHE GEMEINSCHAFTSARBEIT*, 3RD EDITION, 1986 (“LEHRBRIEFREIHE: GRUNDLAGEN DES WISSENSCHAFTLICH-TECHNISCHEN SCHÖPFERTUMS IN FORSCHUNGS- UND ENTWICKLUNGSPROZESSEN 4”), PP. 10. INDIVIDUAL PERSONALITY DEVELOPMENT IS ALSO ADDRESSED: LADENSACK/LADENSACK/BENÉS 1986, PP. 11F.
- ²³ LADENSACK/LADENSACK/BENÉS, *SCHÖPFERISCHES KOLLEKTIV*, 1986, P. 14.
- ²⁴ *IBID.*, P. 15.
- ²⁵ GÜNTER KRAMPEN, *PSYCHOLOGIE DER KREATIVITÄT. DIVERGENTES DENKEN UND HANDELN IN FORSCHUNG UND PRAXIS*, GÖTTINGEN 2019, PP. 435–441.
- ²⁶ FOR EXAMPLE, KLAUS LADENSACK, WHO AMONG OTHER THINGS WROTE A TEACHING BRIEF FOR THE TRAINING PROGRAM AT THE BAUAKADEMIE, DEALT WITH THE PROMOTION OF CREATIVITY IN COMPANIES AFTER 1990 (KLAUS LADENSACK, “VON DER DIRIGISTISCHEN KADERARBEIT IN DER DDR ZUM PERSONALMANAGEMENT IM UNTERNEHMERISCH HANDELNDEN BETRIEB”, IN: *PERSONALMANAGEMENT. VON DER PLAN- ZUR MARKTWIRTSCHAFT*, ED. RÜDIGER PIEPER, WIESBADEN 1990, PP. 71–87. THERE ARE ALSO THE SO-CALLED MEHLHORN SCHOOLS FOR PROMOTING CREATIVITY FOUNDED BY HANS-GEORG MEHLHORN, WHO WAS ALREADY RESEARCHING CREATIVITY IN THE GDR. BIP MEHLHORNSCHULEN, JUNE 19, 2018, [HTTP://WWW.BIP-MEHLHORNSCHULEN.DE/INDEX.HTML](http://www.bip-mehlhornschulen.de/index.html) (11/07/2021).
- ²⁷ GEORG VRACHLIOTIS, *GEREGELTE VERHÄLTNISSE. ARCHITEKTUR UND TECHNISCHES DENKEN IN DER EPOCHE DER KYBERNETIK*, BASEL 2020, P. 136.
- ²⁸ HERMANN ELZE, “MODERNE RECHENTECHNIK IN DER PROJEKTIERUNG. DIE NÄCHSTEN AUFGABEN DES RECHENZENTRUMS DER DEUTSCHEN BAUAKADEMIE”, IN: *DEUTSCHE ARCHITEKTUR*, ISSUE 11, 1964, P. 665.
- ²⁹ GISLINDE KLOSE, “DIE EDV ALS HILFSMITTEL BEI DER SCHÖPFERISCHEN ARBEIT DES ARCHITEKTEN”, IN: *ARCHITEKTUR DER DDR*, ISSUE 10, 1977, P. 627.
- ³⁰ HORST WIELAND, “ZUR ENTWICKLUNG RECHNERGESTÜTZTER PROJEKTIERUNGSTECHNOLOGIEN IM BAUWESEN DER DDR”, IN: *ARCHITEKTUR DER DDR*, ISSUE 11, 1987, PP. 48–50, HERE P. 48.
- ³¹ TRANSLATION BY THE AUTHOR. ORIGINAL QUOTE: “IN IHRER HALTUNG ZU COMPUTER UND CAD-TECHNOLOGIEN SCHEIDEN SICH EBENSO WIE BEI ANDEREN BERUFGROUPEN AUCH BEI ARCHITEKTEN DIE GEISTER: DIE EINEN SETZEN VOLLER EUPHORIE UND WUNSCHDENKEN AUF EIN PFERD, DESSEN LEISTUNGSFÄHIGKEIT SIE MÄRCHENHAFT HOCH ERHOFFEN, ANDERE KRIECHEN GLEICH IN DIE ECKE SCHÖPFERISCHER GESTALTUNG, VERWEISEN AUF DIE TATSÄCHLICHEN KINDER-

KRANKHEITEN VON CAD-SYSTEMEN UND HABEN BEGRIFFE WIE KREATIVITÄT UND INNOVATION SCHNELL ZUR HAND.” (KLAUS WEIDNER, “CAD FÜR ARCHITEKTEN”, IN: ARCHITEKTUR DER DDR, ISSUE 4, 1988, PP. 34–42, HERE P. 34).

³² IBID.

³³ CARL KRAUSE, “DIE ARCHITEKTURDARSTELLUNG, ZEICHNERISCHER ABSCHLUSS DES ARCHITEKTONISCHEN ENTWERFENS”, IN: ARCHITEKTUR DER DDR, ISSUE 6, 1981, PP. 368–376, HERE P. 370.

³⁴ RECKWITZ, *ERFINDUNG DER KREATIVITÄT*, 2012, PP. 14F.

³⁵ IRIS HÄUSER, *GEGENIDENTITÄTEN. ZUR VORBEREITUNG DES POLITISCHEN UMBRUCHS IN DER DDR; LEBENSSTILE UND POLITISCHE SOZIOKULTUR IN DER DDR-GESELLSCHAFT DER ACHTZIGER JAHRE*, MÜNSTER 1996, P. 222F.

³⁶ FOR EXAMPLE, IN JANUARY 1990 THE THEN MINISTER OF CONSTRUCTION, GERHARD BAUMGÄRTEL, GAVE A SOBER ASSESSMENT OF THE CREATIVITY OF ARCHITECTS IN THE GDR AND CRITICIZED THE FACT THAT THE CREATIVITY OF ENGINEERS AND ARCHITECTS WAS SUBORDINATED TO THE FULFILLMENT OF AGENDAS (“DIE ZUR ‘STAATSDOKTRIN’ GEWORDENE GROSSPLATTENBAUWEISE MUSS ÜBERWUNDEN WERDEN. INTERVIEW MIT UNIONSFREUND PROF. DR. GERHARD BAUMGÄRTEL, MINISTER FÜR BAUWESEN UND WOHNUNGSWIRTSCHAFT”, IN: *NEUE ZEIT*, JANUARY 2, 1990, P. 6.).