

Umdenken Umschwenken

Environmental Engagement and Swiss Architecture¹

Kim Förster

In architecture history, the environmental turn of the 1970s, often attributed to the rise of an ecological consciousness and responsibility in Western societies, has recently been argumentatively linked to the military-industrial-academic complex. Seen as a historic milestone, the UN Conference on the Human Environment held in Stockholm in 1972, discussing environment and development especially in the global south, revealed that man's impact on earth became established as a political issue, and that Western and Eastern Bloc countries alike as a reaction founded environmental departments, yet with different tasks. Many historians note that corporate capital at this crucial point in history, too, recognized the looming ecological crisis, as demonstrated by the publication of *Limits to Growth* in the same year, a study of MIT scholars on behalf of the Club of Rome first presented at St. Gallen Symposium, Switzerland, producing different scenarios regarding world population, industrialization, pollution, food production and resource depletion and predicting that if the global economy continued according to the business-as-usual model, earth's limits would soon be reached (Meadows et al. 1972). However, issues of environmental ethics and justice back then already encompassed a critique of economic paradigm of growth and the belief in technological progress, dominant in industrialized societies during those decades that became known as the great acceleration.

Shortly after the invention of global environmental policies and this neo-Malthusian theorizing, the year 1973 saw two publications that somehow dealt with negative ecological and social consequences of industrialization, and became essential readings for the nascent environmental movement, not only in the English-speaking world but also in German-speaking countries, Austria, Germany and Switzerland, offering new theories for intermediate technology and alternative lifestyles: one, Ivan Illich's *Tools for Conviviality*, calling for human-scale devices and services, instruments and means that do not exploit labor (and one might add nature), but help people to communicate, develop and live together (Illich 1973); and two, Ernst Friedrich Schumacher's *Small Is Beautiful*, promoting Buddhist-influenced humane forms of economic practice, restricted by local operation and local resources, and founded upon social relations based on cooperation and solidarity, but also organic agriculture, ecological production and consumption according to ethical and just aspects, beyond any form of materialism (Schumacher 1973).

In the same year, one could have registered in politicized German cultural debates a profound critique of political ecology, as Hans Magnus Enzensberger in an essay titled "Kritik der politischen Ökologie", published in the journal *Kursbuch*, argued that ecology's disciplinary challenges gained range and complexity only once human action was integrated in the ensemble of socio-natural

relationships (Enzensberger 1973). Here, Enzensberger highlighted that in genealogical terms, although the ecological hypothesis, which called for the end of those forms of society advocating industrialized technology and benefitting from it, found wide consensus, there was still dispute about time periods, crucial factors, horizons of expectation and fear. The differentiation of three main groups of people who contribute to the glorification of the ecological was underlying his analysis: the technocrats, who serve the ruling classes; the concerned and responsible citizens, who in their militancy might become the embryo of a mass movement; and the eco-freaks, who escape from the city and civilization and find salvation in food customs and agricultural techniques—to conclude that ecological movements joined forces with a range of political motives and interests.

From this conflictual situation, marked by epistemic uncertainties and the claiming of agency regarding politics, economy and legislation, a new generation of architects arose in Central Europe—environmentally engaged, often politically active—who looked for answers to react to the ecological and structural challenges. Especially in the case of “Umdenken Umschwenken” (think and act differently)—a unique exhibition first shown at ETH Zurich in 1975, before it travelled to more than 25 venues in Switzerland, as well as in Germany and in Austria (Figure 21.1)—a new movement formed, given the opportunities and based on a collective identity, who utilized media strategies of mobilization and action—a movement to be distinguished from postmodern tendencies, such as the then fashionable neo-rationalism taught at the architecture school.²

In what follows, I take “Umdenken Umschwenken” as a quintessential example for a paradigm shift and the nascent alternative movement that was driven by a new generation of students and emerging academics, among them architects, based on not only a moral but also an economic argument. In particular, I will discuss in three parts first that different actors in the run-up of the exhibition got involved in formulating a critique that was reinforced by the 1973 oil crisis and concrete practical options, secondly how both content and design of the exhibition and the accompanying catalog were already conceived as forms of sociopolitical engagement, and thirdly to what extent they had an impact on both the discipline and profession of architecture, and more generally on academia and society. More specifically, with this micro-historical approach I intend to unearth which contexts of argumentation architects in dialog with academics from other backgrounds included themselves to define eco-critical fields of action; how they utilized architectural knowledge and skills to identify and showcase alternatives, both nationally and internationally for an eco-conscious and socially engaged architecture; and to what extent they were able to go beyond the alliance of nation-state politics, industrialized economies and their reliance on oil.

AGU's Anti-Expo

The exhibition “Umdenken Umschwenken” originated in Zurich’s academic and to a certain degree alternative milieu of a generation of the socially and politically engaged, which emerged as part of a new social movement that formed around antinuclear protests, combined with environmental issues (Kupper 1998).³ The organizer and curator was the *Arbeitsgemeinschaft Umwelt* (Working group on the environment, or AGU), located at the two leading academic institutions in Zurich, the *Eidgenössische Technische Hochschule* (Swiss Federal Institute of Technology, ETH) and the University of Zurich, which was founded by students and assistants in the early 1970s.⁴ The group was formed following a well-attended symposium at ETH on the topic “Schutz unseres Lebensraums” (protecting our environment) in the fall of 1970, organized by Hans Leibundgut, a leading Swiss forest scientist, advocate of natural silviculture and the former president of the school (Leibundgut 1971). Among others, the participants discussed “Null Wachstum” (zero growth) being an alternative to a society characterized by individualism and consumerism and the postwar economic miracle based on decade-long faith in growth and technological development. The symposium concluded with a call to stop the self-destruction and to design the environment at a human scale; and the encouragement

umdenken- umschwenken

Alternativen -
Wegweiser aus der
grosstechnologischen
Zivilisation ?

Themen: (Auszug)
Darstellung der
Zusammenhänge zwischen
Energiekonsum, Umwelt-
und gesellschaftlichen
Problemen und Kreisläufen/

Alternat. Landwirtschaft/
Grundnahrungsmittel/
Wohnen/Schule/Information/
Technik/usw.

Arbeitsgemeinschaft Umwelt-
beider Hochschulen Zürich Tel.01/34 63 23
In Zusammenarbeit mit
WWF Schweiz

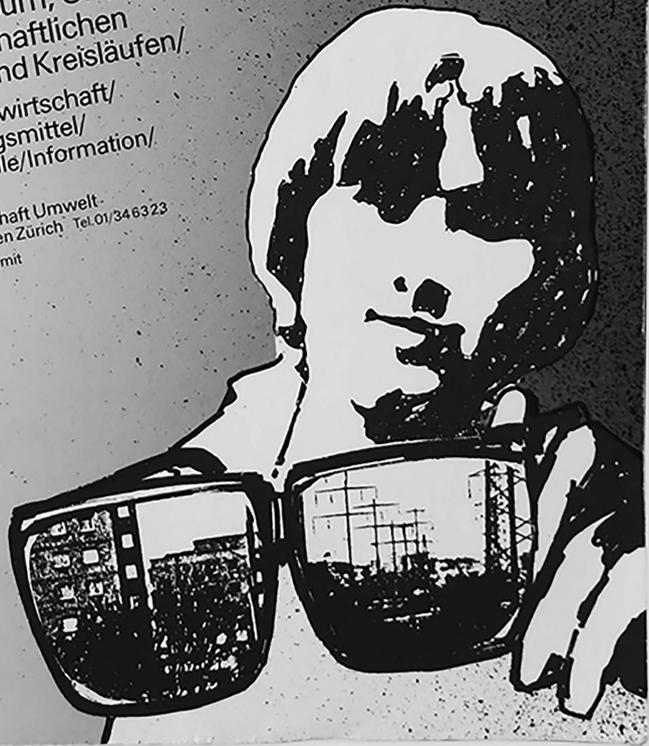


Figure 21.1 Catalog cover (design: Bill Schäfer) for the first edition of the exhibition catalog (AGU 1975a).

that any initiative out of the university would find institutional approval and support. As a result of a leaflet campaign, which had a tremendous response and gathered about 50 people with backgrounds in various academic disciplines, AGU was formed—a loosely organized association, which became a forum of people from diverse schools of thought: for the environmental movement, the left, the pragmatists, the realists, the Steiner supporters, the new generation of entrepreneurs and so forth. As their representative, they elected Christoph Leuthold, a charismatic spokesperson who held a doctorate in forest engineering, as AGU's first president.⁵ In the early years, AGU's environmental engagement crystalized around specific themes and was characterized by a diversity of oppositional activities and protest forms. While next to Leuthold academically advanced group members, such as Werner Edelmann, Theo Ginsburg, Christian Thomas or Uwe Zahn, with a background in architecture, biology and geography took a leading role, AGU paved the way for the interdisciplinarity necessary. Some members of AGU worked at the Research Institute of Organic Agriculture, which in its projects became heavily politicized, as they resisted the influence of the industry on higher education policy (Eichenberger 2012). Others have repeatedly interfered in local political debates on subjects of the modernization of urban infrastructure, which sparked in Zurich in the early 1970s—for example, against the “Expressstrassen-Ypsilon”—namely, the new construction of inner-city express roads that were to meet in y-shaped junctions in the city center, threatening to cut off the urban fabric, or of a new subway rather than a city train network in Zurich. As communication medium and first main organ of AGU, the alternative publication *Bla Bla* (an abbreviation for “Blaues Blatt”, but also German slang for nonsense), was launched in December 1971. Self-published by Uwe Zahn, the newsletter soon developed into an independent biweekly, which published on a range of environmental topics, but moreover on fashionable “off the grid” solutions, as well as questions of decentralization and self-management due to the editor's interests. AGU also took advantage of the possibility offered to all students at ETH to define the content of their own lecture formats, by offering innovative courses twice: an “interdisciplinary seminar on ecology” in the academic year 1972/73, and a series of lectures on “problems of our environment” in 1973/74 (AGU 1973, 1974). While ETH housed Pierre Fornallaz's symposium “Technik für oder gegen den Menschen” (Technology for or against humans) in November 1973 (Fornallaz 1975), and started to provide for funds for environmental research, those academic alternatives functioned as postgraduate studies, bringing agronomists and ecologists to ETH from other German-speaking countries (ETH Board 1974, 1975a). Being unsettled by their reading of Club of Rome's *Limits to Growth*, as the bleak scenario raised consciousness for the planetary dimension of the ecological problematic, AGU members became more and more invested in new social, ecological and economic structures, according to a holistic approach.

Initially, single AGU members took on an active role in environmental debates, being invited to the Gottlieb-Duttweiler Institut (GDI) in Rüschlikon, to act as experts in panel discussions.⁶ What is more, they started to collaborate in planning processes at different scales, in city commissions, in cantonal initiatives and in federal legislation (e.g., the law on spatial planning), so that environmental issues were part of their everyday academic, scientific and political life and work. As they later on openly admitted, it was their major frustration and disillusionment with the scope for realization that eventually led them to claim agency beyond the state, economy or legislation, and formulate a hands-on approach in the realization of alternatives. Research for “Umdenken Umschwenken” had started in November 1973, to be first on display in Zurich in the spring of 1975. AGU members formed a discussion group on alternatives, headed by Werner Edelmann, reaching out nationally and internationally to generate content. Not only did the group envision running their own hamlet, which stayed a utopian project, but also they sponsored a design competition entitled “Wir bauen unser Ökohaus” (We are building our eco-house). Meanwhile, *Bla Bla* regularly informed its subscribers about the upcoming show and invited them to join in, to deliver contributions or to participate in one of the working groups. The topics addressed included alternative forms of agriculture and livestock, house construction and types of settlements, technology, energy and society, with a strong

focus on pioneering architectural approaches and solar and self-built houses. Born as an initiative out of academia, AGU for a while was supported by ETH (ETH Board 1975b); in advance of “Umdenken Umschwenken” they were provided two part-time positions, a coordinator and a secretary, and could take an office in one of the school’s buildings. Still, as preparations advanced, AGU was increasingly challenged, when they raised their voice against the foreseen large-scale technological energy futures, and at the height of the Swiss antinuclear movement participated in protests against the site for a new nuclear power station in Kaiseraugst (Kupper 1998).

During the opening of “Umdenken Umschwenken” on May 12, 1975, which eventually was made possible with financial support of WWF Switzerland, the Audimax at ETH was bursting at the seams, and two more auditoriums were connected by video transmission. While ETH president Professor Heinrich Ursprung had withdrawn from delivering the opening address, AGU was lucky to get Ivan Illich, the Austrian philosopher, priest and critic, then at the height of his notoriety, to deliver the key note. Illich in his lecture titled “Spezifische Kontraproduktivität” (specific counter-productivity), drawing on *Tools for Conviviality*, put forward the argument that our institutions altogether missed to meet their targets, and that they rather bring the opposite results of what we have them for, which is evidenced, to him, in the devaluation of the environment and the production of unevenness in industrialized societies—for example, by the waste of resources or the pollution of air (Illich 1975a, 1975b). AGU had invited him for thought-provocation and listed his essay *Energy and Equity*, critical of the contradictions, which are concealed by the use of a term like “energy crisis”, as source of inspiration (Illich 1974). Illich gladly returned the favor and hospitality, remarking that the exhibition in some future will have retrospectively proven to be the most significant achievement of ETH in the 1970s, an appraisal that was quoted in the press.

Hence “Umdenken Umschwenken” had the self-proclaimed aim of nothing less than to point to societal contradiction and to promote a change of consciousness among visitors, challenging the predominant notion of civilization. The exhibition comprised different parts—owing to the spectrum of subjects suggested by E. F. Schumacher—to offer new approaches for structural change. Over many months different subgroups operating quite independently to diversify the problems to be addressed had compiled best-practice examples of environmentally and socially engaged projects, to be decided upon democratically in AGU meetings; yet the focus was clearly on Western and Central Europe (only a few projects were actually located in the Global South). In 1975 during the run-up, a core group of 21 members across disciplines worked on the exhibition; at peak time AGU’s enlarged circle had grown to 200—those from ETH being overrepresented compared to those from University of Zurich. One special aspect of “Umdenken Umschwenken” was AGU’s ability to mobilize for an interdisciplinary dialogue between architects, agronomists, structural engineers, production engineers, biologists, chemists, forest scientists, mechanical engineers, economists, pedagogues, physicists and planners, to come to a critical understanding of the planetary situation and the negative impact of human activity on nature. Their largest coup, however, was that for an exhibition of this political volatility, they had been able to secure the main hall of ETH’s central building—the very heart of Gottfried Semper’s venerable school building, once a sculpture hall, to be crossed by professors, staff and students alike every day.

Accompanying the exhibition, to reach out to a wider public and demand responsibilities for the environment, AGU produced a catalog financed by the GDI, in a first edition of 2,000. In their commonly written foreword to the catalog, the core group of organizers and curators communicating the exhibition’s meaning and purpose defined “Umdenken Umschwenken” as an “anti-expo”, which, unlike those expos that serve the interest of industry and economic growth, was actually critical of large-scale technologies (AGU 1975a, 1975b). Rather, they conceived the exhibition and catalog as a guide that might point toward an alternative future and thus leave behind the constraints of industrialized societies. In addition to a mere moral argument of environmental ethics and justice, the authors took up Illich’s thought and terminology, in particular his notion of conviviality and the criticism of externalized vs. internalized costs to oppose to industrialized processes of production in state capitalism

(also in state socialism, as they pointed out), as illustrated by a series of self-drawn cartoons that accompanied the remarkably defined text, and challenged notions of society and progress that were underlying the great acceleration of the postwar era. As activist-curators, they saw “Umdenken Umschwenken” in contrast to the manner of the mainstream media and advertising industry, as a political practice to express social criticism and criticism of society, and thus the structure of power. For AGU it was clear that as they aimed at environmental and social engagement, exhibition and catalog could not be neutral.

Alternatives to the Status Quo

Eventually, AGU had identified six thematic fields in which to become active, presented under headings such as “Agriculture, Food,” “Construction, Housing,” “Energy,” “Waste, Recycling,” “Social Issues” and “Miscellaneous”. Upon entrance through the foyer of the ETH main building from Rämistrasse, visitors of “Umdenken Umschwenken” first encountered a three-dimensional “ecolabyrinth” (Figure 21.2) that showcased the relationship between forms of energy, technology and society and suggested different decision paths of how to act environmentally and politically responsibly. In the building’s main hall and adjacent corridors, AGU had put up display boards that featured a total of 50 projects, and that were reprinted in the catalog, introduced by diagrammatic drawings (AGU 1975)—all showing alternatives to the status quo, ranging from organic and biodynamic agriculture, solar houses and communes to new ways to study and improve the water quality. On display were furthermore several material objects—for example, devices for a laying battery (Figure 21.3), an alternative chicken house, but also architectural models and solar panels, as well as handicraft products from Steiner schools, color boards, slide shows and instruments for organ experience. “Umdenken Umschwenken” thus gave concrete suggestions for how to achieve a good life, presenting as alternatives (1) natural cycles, instead of industrial production; (2) ecological building and living, instead of inhospitable cities; (3) renewable energy sources, instead of the combustion of fossil fuels; (4) recyclable waste, instead of a thoughtless throwaway society; and (5) social interaction, instead of careless exploitation. AGU produced and disseminated interdisciplinary knowledge that combined environmental, sociocultural and economic lines of argument, calling for a clear reduction in the use of resources, both material and energy.

While “Agriculture, Food” set the tone in terms of reducing the influence of industry and limiting external energy, “Construction, Housing” (coordinated by Armin Binz), with a total of 16 contributions, was the most comprehensive section. AGU here argued for the formation of a new social structure based on decentralized technology, economy and power. Explicitly referring to Europe-wide research into autonomous, ecologically integrated houses—for example, in the UK (with the Autonomous House Research Programme at the University of Cambridge), the Netherlands (with the THAASEB system—a prototypical Thermodynamic, Hydrolic, Aeolic, Autarkic, Solar Energy Building developed at TU Eindhoven) and France (with the eco-architecture of Groupe d’Etude de la Maison Ecologique G.E.M.E.)—AGU even then understood well that neither the energy nor the environmental problematic was to be solved on pure technical or scientific grounds.

The most elaborated and comprehensive contribution, however, came from Zurich-based working group Plenar—acronym for “Planung-Energie-Architektur” (planning-energy-architecture)—around Peter Steiger but here represented primarily by Conrad Brunner. Their study for the “Plenar-Haus-Konzept”, an energy-conscious multiparty house, they presented on 12 display boards on “climate understanding”, “orientation”, “spatial disposition”, “use of space”, “light”, “wind and ventilation”, “wall construction” and “heating system”—namely, a mixture of environmental factors and architectural elements. For the exhibition, the map and the diagram, especially the mind map and curve diagram, as well as the floor plan and the cross section, as specific architectural forms of info-graphics for visualizing natural processes, such as solar radiation and energy balances, provided them with plausible metaphors for both signifying scientific diagnosis and political action. Likewise,



Figure 21.2 An "eco-labyrinth" as the entrance to "Umdenken Umschwenken".

© 2017 KEYSTONE.



Figure 21.3 Devices for a laying battery, promising animal-friendly conditions.

© 2017 KEYSTONE.

Plenar's house design itself, with its horizontally and vertically layered structure, a living-dining-kitchen core as a "réduit"-zone, and the installation of solar collectors (about one-third of the surface), can be seen as another form of visualizing both their ecological and social engagement (Steiger et al. 1975).

Totally different from the neo-rationalism which has been made fashionable at ETH by Aldo Rossi (Kockelkorn et al. 2013), Plenar's eco-modernist approach, integrating medium technology and a formal, constructive approach, combined three central strategies of how to adjust comfort with the claim for increasing self-sufficiency: (1) reducing the heat demand through a "réduit"-strategy in the winter, (2) storing excess heat in the fall for two to three months, and (3) temporarily using an additional heating system. To illustrate these three interrelated spatial, architectural and technological strategies, Plenar drew on cartoonish and iconic illustrations of household items, such as the sardines tin, the thermos flask and the hot-water bottle. What is more, they referred to traditional Swiss building types (quoting Bernard Rudofsky's reference to windscreen-installations in Hyderabad, Pakistan, from his groundbreaking 1964 MoMA exhibition *Architecture Without Architects*) to argue for a contemporary interpretation of vernacular architecture: the Bernese farmhouse with its façade stratification, utilizing loggias as habitable buffer zones; the Ticino tower house with its vertical stratification, using the rising warm air as automatic heating; and the Engadine house with its massive walls and small windows, storing heat (Roesler 2009).

In contrast to the formal, often Protestant rigor of high modernism that dominated Swiss architecture and planning until then with a few exceptions, the more esoteric and spiritual, anthroposophic and biomorphic architectural examples featured in "Umdenken Umschwenken" called for an environmental consciousness quite differently—for example, in the case of Auroville, the experimental town in South India, which was founded in 1968 by Hindu philosopher, yogi, guru and poet Sri Aurobindo (whose writings in Switzerland were published by Steiger), and which was of immediate interest for AGU because of its specific planning approach, connecting both environmental research and education on themes such as alternative agriculture, energy, food and building materials; but also cases from Austria and Germany—for example, the study group "Integrale Bio-logische Architektur" (Integral biological architecture, or IBA) from Vienna, which defined as some characteristics of an alternative architecture key concepts such as longevity, naturalness and simplicity; the environmental designs of the "Gesellschaft für angewandte und experimentelle Ökologie" (Society for applied and experimental ecology, or GEO), a team led by Merete Mattern from Starnberg near Munich, acting on different scales, in terms of landscape, urban planning, village-scape and house construction; the holistic approach of Theodor Henzler, coming from Buddhist teaching instead of dialectic thinking; or the integrated approach of the working group on "Gesundes Bauen—Gesundes Wohnen" (Healthy building—healthy living), based on scientific-technical construction biology.

In addition, AGU with "Umdenken Umschwenken" also presented some promising Swiss projects in housing and urban design from the previous decade experimenting with primary technology, solar energy and mixed use. On the other hand, they were well aware that the few urban projects they exhibited were rather of a utopian nature and not to be realized in the short run, the most noteworthy being that of working group "Kreis 5 vor 12". Kreis 5, one of Zurich's then troubled inner-city districts around Röntgenplatz, was facing problems, since the former industrial neighborhood was threatened by the pressure of city center development, transit traffic, an aging population and the lack of political participation. In the 1970s, negative-affected local residents had thus joined forces to protest urban developments, proposing a city planning from below with the protection of housing, traffic calming, renovation work and self-government, receiving even more attention when on display. The moral idealism of those best-practice examples selected for the "Construction, Housing" section of "Umdenken Umschwenken", be it proposals for multiparty houses or processes of densification and reurbanization, somehow reflected the critical architectural and urban discourse that infiltrated the architecture department at ETH and the Swiss architectural press, explicitly two

recent publications, both the subject of public debate at that time: “Göhnerswil”: *Wohnungsbau im Kapitalismus* (Bachmann et al. 1972), a critical study conducted in the framework of a student seminar at ETH led by Jörn Janssen of the conditions and effects of the housing industry by the example of the corporate general contractor Ernst Göhner AG; and Rolf Keller’s *Bauen als Umweltzerstörung* (Keller 1973), the visualization of recent large-scale techno-utopian yet in the end inhuman and destructive trends in architecture and planning in Switzerland through photography, as building was seen as environmental degradation.

A fundamental part of “Umdenken Umschwenken”, next to “Construction, Housing”, formed the section on “Energy”. According to the critical thought of those days, AGU’s topical introduction (written by Ruedi Kriesi and Daniel Feuermann, the coordinators of this section) argued an essential relationship between atmospheric pollution (climate change and global warming were not yet a topic), resource depletion and urbanization processes.⁷ Calling for a transition to renewable energy sources, based on new science, technology and innovation on an intermediate scale, AGU provided a survey of solar technology as a rather young field—for example, the interdisciplinary solar energy research that was carried out at EPFL in Lausanne on the interplay of façade elements, thermal equipment, storage facilities and surfaces design, in which the departments of architecture, physics, mechanical and electrical engineering were involved, or the latest technological developments of solar engines in combination with parabolic mirrors to generate electricity, as well as the application of solar collectors and heat pumps to small and medium-sized residential buildings. AGU members themselves made a large contribution: most outspoken was Ueli Schäfer, an architect by training and central figure in the Société Suisse pour l’Energie Solaire (Swiss society for solar energy, or SSES), who showed the potential for solar energy use in Switzerland by depicting in diagrams a systemic link between control, distribution, insulation, sensor, cooling and heat production. Besides, the SSES, a private-law association founded by Pierre Fornallaz only in the previous year, campaigning for an ethically acceptable energy policy as an alternative to nuclear energy, put forward energy-saving plans with respect to the fields of transport, heating, household, industry and commerce, based on an overview of energy consumption compiled by Theo Ginsburg, previously the proponent of a peaceful use of nuclear energy in Switzerland himself.

“Umdenken Umschwenken” consequently, with the intricate interplay between actors in science, industry and politics, marked an important turning point in recent Swiss energy and environmental history regarding a transformation from countercultural aspects of the sustainability debate to those of an ecological modernization, based on the mixing of architectural elements and technological devices. This became apparent, since AGU in connection with the SSES displayed a total of ten solar panels—different models, both flat-plate and parabolic collectors, all prototypes and some products from different manufacturers, which had entered the market only in the beginning of the year 1975 (Figure 21.4). An act of self-defense, AGU in their foreword to the catalog emphasized that they saw solar panels not just as new gadgets, but also as a medium-technology plant for energy production, a “materialization of good will”, to be less dependent on the large-scale, externally determined, profit-oriented energy sector (AGU 1975, A4). Notwithstanding all disclaimers, the exhibition became advertising for solar panels as a new green product, although the economization of ecology was yet to come. While Schäfer in an SSES bulletin, pointing to the exhibits, polemicized against too much bureaucracy—explicitly the Swiss Patent Office—that hindered the launch of solar panels on the market, to save the world, “Umdenken Umschwenken” in displaying some of them advertised for the penetration of new technologies in the economy (Schäfer 1975).

Results of the Protest and Alternatives Movement

Although the other sections of “Umdenken Umschwenken”, such as “Waste, Recycling” and primarily “Social Issues”, were less developed, AGU indeed achieved success: they anticipated a wide



Figure 21.4 Different solar panels exhibited in the main hall of ETH.
© 2017 KEYSTONE.

appeal and organized an extensive accompanying program of 25 lectures, panel discussions, screenings and so forth, which were held for six weeks at ETH, every night during the week, on topics such as construction and housing, the threefold social order, organic farming and energy. As a special event to further mobilize, educate and network assistants and students, in June 1975, AGU organized a full day of workshops with E. F. Schumacher, which put forward the formulation of new, larger academic research projects, the design of immediately realizable projects, and the establishment of a working group on medium technology, followed by a lecture by the figurehead of the alternative technology movement, titled “Small is beautiful, small is possible, small is necessary” (Schumacher 1975). Besides, AGU continued to be active and while “Umdenken Umschwenken” was still up they founded AG Energie (Working group on energy) and AG Alternative Technologie (Working group on alternative technology). Of crucial importance for an increasing awareness of environmental issues was that they were in contact with other organizations: environmental clubs such as WWF, Aqua Viva, Concerned Scientists, Schweizerische Akademische Gesellschaft für Umweltforschung und Ökologie (SAGUF), the NAWU-group, Neue Analysen für Wachstum und Umwelt (New analysis for growth and environment), Schweizerischer Tierschutzverband (Swiss animal welfare association) and the co-operative Neu Walser Bund.

Impact can be measured not only by that the exhibition period was extended by two weeks; the catalog sold out in three weeks only and was reprinted in a slightly extended version with a new cover, this time in an edition of 5,000 (Figure 21.5). The effects of “Umdenken Umschwenken” can be specified at different levels, first of all because it started a new debate on environmental engagement in architecture in German-speaking countries. In parallel, as a practical supplement to the exhibition, the GDI published the *Alternativkatalog* on topics such as building, communities, communication, transport and recycling, edited by the group Dezentrale (headed by *Bla Bla* editor Uwe Zahn)—a Swiss-German version of the DIY guidebook *Whole Earth Catalog* of U.S.-American counterculture that offered practical information, addresses and facts—and it was followed by two more editions and sold a total of 30,000 copies (Zahn et al. 1975–1978). Ultimately, “Umdenken Umschwenken” became part of a larger initiative of greening in terms of energy, technology and economy, and last but not least architecture. In the Swiss architectural press, too, eco-architecture soon became a topic—for example, when in a 1977 special issue of *Bauen + Wohnen*, a leading professional magazine, Ruedi Kriesi, commissioned by Ueli Schäfer, reported extensively on a research trip he did in the aftermath of the exhibition to visit eco-solar houses in North America, while in *Technische Rundschau*, he published on active and passive solutions and their pros and cons (Kriesi 1977a, 1977b).

Although the paradox is that the handling of resources and energy in Switzerland with increasing globalization did actually not change, but on the contrary intensified (Kupper 2003), the historical relevance of “Umdenken Umschwenken” for an environmental engagement can nevertheless be measured in several respects that crystallized around the exhibition: first, with regard to the immediate impact not only among AGU but also more generally in Swiss society, since due to good contacts with journalists and the comprehensive public relations work, both exhibition and events were featured in the daily press, among others the liberal *Neue Zürcher Zeitung* and the alternative *Tagesanzeiger*, as well as on radio and TV (Galle, 1975; schi, 1975). The student press, the monthly *Das Konzept* and *Zürcher Student*, both reported on AGU’s activities, publishing their accompanying thoughts about the exhibition and statements on educational policy. Secondly, “Umdenken Umschwenken” from the start was conceived as travelling exhibition based on transportable display boards, and right after ETH, was shown at the GDI in the summer of 1975; a complete copy of the panels only, without the diverse objects, machines and devices, was shown in the West German town Aachen in the fall of 1975; and the whole exhibition, this time supplemented by a functioning solar heating apparatus, was installed on the museum’s roof, at the Gewerbemuseum (Museum of Applied Arts) in Basel, in the winter of 1976—where in 1975, too, at the initiative of German chemist and

umdenken Alternativen, umschwenken Wegweiser aus den Zwängen der gross- technologischen Zivilisation:

Energie und Gesellschaft  Landwirtschaft  Sonnenhäuser
Wohnen  Technik  Recycling  Schule  Kommunen

Konzeption und Gestaltung: Arbeitsgemeinschaft Umwelt (AGU),
Postfach, 8028 Zürich, unterstützt durch WWF Schweiz und Andere   

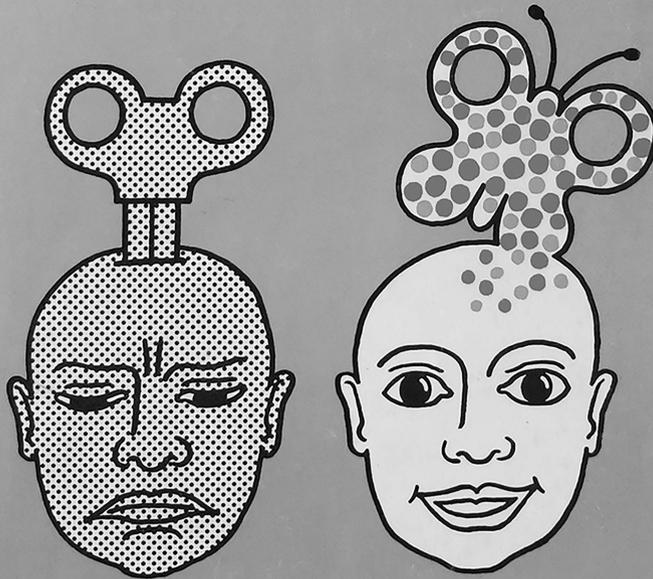


Figure 21.5 Cover design for the exhibition catalog for “Umdenken Umschwenken” in the second edition (AGU 1975b).

environmental activist Hanswerner Mackwitz, an independent AG Umwelt had been founded at the University of Basel.

Subsequently, “Umdenken Umschwenken” was on display in other Swiss towns (Schaffhausen, Lucerne, Lenzburg, Rorschach, Aarau and St. Gallen), disseminating the new environmentally and socially engaged corpuses of knowledge compiled, and thus legitimizing the support AGU received from WWF and GDI, but also in further German and in Austrian locations. In Austria, the initiative grew out of the Arbeitsgruppe Alternativen (Working group on alternatives, or AGA), headed by Werner Kvarda, which continued AGU’s decentralized, participatory principle of organizing and curating and in 1977 put together an exhibition of their own chosen examples at the Österreichische Bauzentrum in Vienna, which subsequently was shown in all nine provinces, each time supplemented by local projects, here again a first indication of the rising environmental movement, which eventually led directly to the formation of the Austrian Green Party. In Germany, the original exhibition was shown at several universities (among others at RWTH, a second time in Aachen within a short time, and at University of Kassel), at cultural places (e.g., Frankfurt’s Paulskirche) and at alternative venues, such as the “Umweltfestival” in Berlin in the summer of 1978 (DdU 1978). In both countries, reeditions of the catalog were published, in Germany by alternative Achberger Verlag (AGU 1977) and in Austria by an independent, self-published publication under the title “Schluss mit der ewig gestrigen Zukunft” (Put an end to yesterday’s future, AGA 1977), which grew with each exhibition (Figures 21.6).

Although in the immediate aftermath of “Umdenken Umschwenken”, AGU discussed their professionalization and developed a concept for continued work, a sustained engagement for the group proved to be difficult. In 1976 next to attempts to bring in new members they had to find new resources to finance activities, since the exhibition had been in deficit, and moreover reorganize their relationship to ETH, but eventually they faced adversities and hindrances. Despite international success and having been awarded the Swiss medal for environmental protection, in 1976 AGU’s work within and outside of the academic institution became a major political issue. The student newspaper in a lead article was questioning the impact of “Umdenken Umschwenken” on research and education—for example, whether the architecture department was actually working on low-cost housing and eco-solar houses, and whether urban sprawl and decentralization was seriously addressed—and arguing that alternative technology was not wanted (Hodel 1976). The torch of societal conflict, however, was that the politically more outspoken AGU members, leaning to the left, became subject to private intelligence, “Umdenken Umschwenken” being incriminated for subversion and illegality, which has to be understood in the context of the political climate of the time (Anonymous 1976a, b; Bärswyl 1976). AGU afterwards lost official institutional support, resulting first in expulsion from their offices (ETH Board 1976; Zahn 1976). In the end, AGU broke apart, as a process of clarification failed to find a solution, which eventually led to the demise of all their activities.

In spite of the political situation, “Umdenken Umschwenken”, in the medium term, had a decisive impact on individual biographies. While some former AGU members afterwards dropped out of the conventional system, others continued their environmental careers by working in academic or professional research and teaching, founding independent research and consultancy offices on energy and environment, entering politics, or operating a business in the private sector, inter alia developing companies with the aim to push the fields of solar energy or biogas (Binswanger/Geissberger/Ginsburg 1978; Bundesamt für Energiewirtschaft 1980). AGU thus made an impact on the professional landscape, as they established new joint ventures, agencies, foundations and associations, especially in the fields of energy and technology, complicating the question of what might be an alternative. As a direct consequence of “Umdenken Umschwenken”, AGU members established the Schweizerische Arbeitsgemeinschaft für alternative Technologien (Swiss working group on alternative technologies, or SAGAT) in December 1975, which shortly afterwards merged with the Schweizerische Vereinigung für Mittlere Technologien (Swiss association for medium technologies, or SVMT), yet different ideas of what was



UMDENKEN UMSCHWENKEN

Alternativen, Wegweiser aus
den Zwängen der grosstech-
nologischen Zivilisation.

Achberger Verlag

Figure 21.6 Cover design for the exhibition catalog for "Umdenken Umschwenken" in the German edition by Achberger (AGU 1977).

to be understood by alternative technology were prevailing. In 1976, some started the Schweizerische Energie-Stiftung (Swiss energy foundation, or SES), a lobby group for solar industries, which positioned itself against nuclear power, advocating an intelligent, environmentally and people-friendly energy policy. All this contributed to the fact that Switzerland in the 1980s set out to be a pioneer for a greater environmental responsibility, before normalization prevailed in the 1990s, when Europe-wide pragmatic and techno-optimist approaches became predominant in the context of neoliberalism.

Currently, major instruments of environmental control and regulation in Switzerland, in particular the Minergie certification, and the “2000-watt society” scenario can be traced back to initiatives from the 1970s, showcasing the paradoxes of greening and ecology, economic growth and energy transition. After photovoltaic had been tested in pilot and demonstration projects at the federal and cantonal level (Humm 1993), both attempts at a more sustainable architecture, which can be considered long-term impacts of “Umdenken Umschwenken”, took different trajectories. Based on his experience with a “zero-energy housing” in Wädenswil near Zurich, Ruedi Kriesi (with architect Ruedi Fraefel), then head of the energy department of Canton Zurich, and Heinz Uebersax as business partner in 1994 conceived of the Minergie label, a private-sector standard for low-energy houses, which since 1998 was applied to largely residential and office buildings—a total of approximately 42,500 to this day (Kriesi 1989, 1990, 1997). Highly dependent on high-insulating windows and automated ventilation with highly efficient air-to-air heat recovery, Minergie fell into disrepute (Kriesi 2005), and in recent years—by now differentiated in the subcategories Minergie-P, Minergie-A and Minergie ECO—has been challenged by engineers and architects—for example, with the concept of a “zero emissions building”, developed by Hansjürg Leibundgut at ETH, that is based on heat sensors and ground storage, to reduce the emission of carbon dioxide (Leibundgut 2011). The ambitious vision of a “2000-watt society”, on the other hand, an energy policy model that proposes reducing the energy need of each individual to the average of the 1950s, was also developed in 1994 by ETH researchers (Kesselring and Winter 1994). First adopted by the city of Zurich in 2008, the “2000-watt society”, which at some point was criticized for not recognizing embedded energy, today is part of the Swiss energy program and has been adopted for buildings with the specification of the Schweizerischer Ingenieur- und Architektenverein (Swiss society of engineers and architects, or SIA), with regard to energy efficiency and renewable energies. “Umdenken Umschwenken” in a genealogical perspective marked the beginning of a new kind of engagement across disciplines, and to some extent, this unique exhibition and publication, complicating the issues of environmental responsibility, of the agency of the state and the academy, of planetary ethics and justice in architecture, still has a repercussion on architecture and urbanism today.

Notes

- 1 I first presented this text on June 3, 2015, at the conference of European Society for Environmental History at University of Versailles-Saint-Quentin-en-Yvelines on a panel entitled “Media, Architecture and Global Environmental Imaginaries”, organized by Daniel Barber.
- 2 The exhibition may yet come to be seen as seminal. Forgotten for a long time, Swiss architect and theorist Sascha Roesler in an article on two exhibitions, comparing “Umdenken Umschwenken” with Bernard Rudofsky’s “Sparta/Sybaris”, on display in Vienna in 1987, was the first to unearth it (Roesler 2009).
- 3 In Switzerland at that time, one could have registered growing interest in different environmental issues also in the architectural circles. In 1971 these became institutionalized with the founding of the Federal Agency for Environmental Protection. Yet it took 12 years before an environmental article added to the constitution in the same year was implemented into national law (Hänggi 2016).
- 4 The archival situation on “Umdenken Umschwenken” is unclear, and in general AGU is barely documented. While the archives at ETH Zurich do not have any holdings, except official bulletins and the student newspaper, the archives at the University of Zurich hold few documents on AGU’s activities, especially its ending. Elsewhere, there are archival holdings on “Umdenken Umschwenken” at the state’s archives in Basel and Lucerne, where the exhibition travelled. Moreover, in 2014 and 2015, I was able to realize oral history

- interviews with four former AGU members: Armin Binz (August 20, 2014), Ruedi Kriesi (May 5, 2015), Christoph Leuthold (June 9, 2015) and Christian Thomas (June 15, 2015). All provided me with access to documents in their private archives (bylaws, early protests, membership lists, publicity documents, press coverage, itinerary for exhibition travelling, expulsion, etc.).
- 5 Christoph Leuthold in our interview clarified that of a full-time position at ETH he spent half for AGU. Curiously, he also confirmed that Christoph Blocher, the later head of the right-wing, most powerful Swiss People's Party (SVP), was one of the founding members and moreover served as AGU's first secretary, producing the minutes.
 - 6 The Gottlieb-Duttweiler Institut, an independent research center, which goes back to the ideas of and is named after Gottlieb Duttweiler, the founder of the Migros Cooperative, today is the oldest think tank in Switzerland; throughout the 1970s, then under the direction of Hans Pestalozzi, the GDI supported environmentally progressive projects.
 - 7 Ruedi Kriesi in our interview pointed out that for him a decisive trigger to join AGU was an event called "Sonnenenergie auf dem Weg zur praktischen Nutzung" (Solar energy on the way to practical use), organized by the Société Suisse pour l'Energie Solaire (SSES) at the GDI in December 1974.

References

- Anonymous, "AGU klagt gegen Cincera", *Die Tat*, vol. 41, no. 289, December 8, 1976a, p. 2.
- Anonymous, "Klage gegen Cicera", *Die Tat*, vol. 41, no. 284, December 2, 1976b, p. 1.
- Arbeitsgemeinschaft Alternativen. *Schluss mit der ewig gestrigen Zukunft*, Vienna: Selbstverlag, 1977.
- Arbeitsgemeinschaft Umwelt (AGU). *Interdisziplinäres Seminar in Ökologie: WS 1972/73*, Zurich, 1973 (unpublished reader).
- Arbeitsgemeinschaft Umwelt (AGU). *Probleme unserer Umwelt—wo steht die Universität? Ringseminar WS 1973/74*, Zurich, 1974 (unpublished reader).
- Arbeitsgemeinschaft Umwelt (AGU). *Umdenken Umschwenken. Alternativen, Wegweiser aus den Zwängen der gross-technologischen Zivilisation: Energie und Gesellschaft, Landwirtschaft, Sonnenhäuser, Wohnen, Technik, Recycling, Schule, Kommunen*, Zurich: AGU, 1975a. (reprinted in 1975, and, by Achberger Verlagsanstalt, in 1977)
- Arbeitsgemeinschaft Umwelt (AGU), "Begleitgedanken zu einer aktuellen Ausstellung 'Umdenken Umschwenken'", *Zürcher Student*, vol. 53, no. 3, June 1975b, p. 2/3.
- Bachmann, Heini et al. (eds.). "Göhnerswil." *Wohnungsbau im Kapitalismus: Eine Untersuchung über die Bedingungen und Auswirkungen der privatwirtschaftlichen Wohnungsproduktion am Beispiel der Vorstadtsiedlung Sunnebüel in Volketswil bei Zürich und der Generalunternehmung Ernst Göhner AG*, Zurich: Verlagsgenossenschaft, 1972.
- Bäriswyl, Bruno, "Arbeitsgemeinschaft Umwelt (AGU) klagt gegen Cincera", *Das Konzept*, vol. 5, no. 12, December 1976, p. 6.
- Binswanger, Hans Christoph, Geissberger, Werner and Ginsburg, Theo (eds.), *Der NAWU-Report: Wege aus der Wohlstandsfalle*, Frankfurt/Main: Fischer, 1978.
- Bundesamt für Energiewirtschaft (ed.), *Wärmesparen im Haus: ein praktischer Ratgeber für Bewohner, Eigentümer und Ververwalter*, Bern: Eidgenössische Drucksachen- und Materialzentrale, 1980.
- Dokumentationsgruppe des Umweltfestivals (ed.), *Wer keinen Mut zum Träumen hat hat keine Kraft zum Kämpfen: Dokumentation zum Alternativen Umweltfestival Berlin. (4. 6.–16. 7. 1978)*, self-published, 1978.
- Eichenberger, Ursina, *Ökologie und Selbstbestimmung: Das Forschungsinstitut für ökologischen Landbau (Oberwil, CH) 1970–1984 im Kontext der ökologischen Alternativbewegung*, Zurich, 2012 (unpublished licentiate thesis).
- Enzensberger, Hans Magnus, "Zur Kritik der politischen Ökologie". In *Kursbuch 33: "Ökologie und Politik oder Die Zukunft der Industrialisierung"*, Berlin: Rotbuch Verlag, October 1973, pp. 1–42.
- ETH Board, "Forschung über Umweltprobleme", *ETH Bulletin*, vol. 8, no. 96, October 24, 1974, p. 13.
- ETH Board, "Aus der Schulleitung. Multidisziplinäre Forschung über Umweltprobleme: Neue Richtlinien für die Finanzierung", *ETH Bulletin*, vol. 9, no. 104, May 29, 1975a, p. 10/11.
- ETH Board, "Arbeitsgemeinschaft 'Umwelt' beider Hochschulen in Zürich. Ausstellung 'Umdenken Umschwenken'", *ETH Bulletin*, vol. 9, no. 104, May 29, 1975b, pp. 31–33.
- ETH Board, "Aus der Schulleitung: Geschäfte vom 1. November", *ETH Bulletin*, vol. 10, no. 126, November 30, 1976, p. 18.
- Fornallaz, Pierre (ed.), *Technik für oder gegen den Menschen? Die neue Aufgabe der Hochschule*, Basel: Birkhäuser Verlag, 1975.
- Galle, Samuel, "Umdenken Umschwenken: Eine Ausstellung zum Umweltschutz an der ETH", *Neue Zürcher Zeitung (NZZ)*, no. 108, May 13, 1975, p. 41.
- Hänggi, Marcel, "Wir Umweltverwalter", *Die Zeit*, April 18, 2016, online: www.zeit.de/2016/17/klimawandel-schweiz-selbstverstaendis-umweltschutz-veraenderung/

- Hodel, Georg, "Alternativtechnologie an der ETHZ nicht gefragt? Das Gewissen der Technonormen", *Zürcher Student und Das Konzept*, vol. 54, no. 6, November 1976, p. 1.
- Humm, Othmar, "Photovoltaik und Architektur: Solarzellen als Teil der Bauhülle", *Schweizer Ingenieur und Architekt*, vol. 111, no. 27/28, 1993.
- Illich, Ivan. *Tools for Conviviality*, New York: Harper and Row, 1973.
- Illich, Ivan. *Energy and Equity*, New York: Harper and Row, 1974.
- Illich, Ivan, "Spezifisch Kontraproduktivität", lecture held at ETH Zurich on May 12, 1975a (unpublished).
- Illich, Ivan, "Wenn Medizin krank macht", *Das Konzept*, vol. 4, no. 6, June 20, 1975b, p. 3.
- Keller, Rolf. *Bauen als Umweltzerstörung: Alarmbilder einer Un-Architektur der Gegenwart*, Zurich: Verlag für Architektur Artemis, 1973.
- Kesselring, Paul and Carl-Jochen Winter, "World Energy Scenarios: A Two-Kilowatt Society—Plausible Future or Illusion?" In *Energietage 94: Proceedings 10th–12th November 1994*, Villigen: Paul Scherrer Institut, 1994, pp. 103–116.
- Kockelkorn, Anne, Sowa, Axel, Reichlin, Bruno and Janssen, Jörn, "Zurich, 1971: A Conversation on the Housing Question, Academic Intrigue, and an Italian Maestro", *Candide*, no. 7, October 2013, pp. 113–140, online: www.candidejournal.net/wp-content/uploads/downloads/2014/12/CAN07_ENCOUNTERS_Janssen_Reichlin_Kockelkorn_Sowa.pdf
- Kriesi, Ruedi, interview with Ueli Schäfer, *Bauen + Wohnen*, vol. 31, no. 7/8, 1977a, pp. 255–288.
- Kriesi, Ruedi, "Aktive oder passive Solarheizung", *Technische Rundschau*, August 9, 1977b, no. 32, pp. 9–11.
- Kriesi, Ruedi, "'Null-Heizenergie'-Konzept in einer Siedlung in Wädenswil", *Schweizer Ingenieur und Architekt*, vol. 107, no. 45, 1989.
- Kriesi, Ruedi, "Energieplanung im Kanton Zürich", *Schweizer Ingenieur und Architekt*, vol. 108, 1990.
- Kriesi, Ruedi, "Die Minergie-Mythen", *Wohnen*, vol. 80, no. 1–2, 2005.
- Kriesi, Ruedi and Schwager, Alois, "Energieverbrauch auf nachhaltig tiefes Niveau absenken: Interview mit Ruedi Kriesi, Leiter der Energiefachstelle des Kantons Zürich", *Schweizer Ingenieur und Architekt*, vol. 115, 1997.
- Kupper, Patrick, Abschied von Wachstum und Fortschritt: Die Umweltbewegung und die zivile Nutzung der Atomenergie in der Schweiz (1960–1975). *Preprint zur Kulturgeschichte der Technik*, No. 2, Zurich, 1998.
- Kupper, Patrick, "Die '1970er Diagnose': Grundsätzliche Überlegungen zu einem Wendepunkt der Umweltgeschichte," *AfS*, vol. 43, 2003, pp. 325–348.
- Leibundgut, Hans (ed.), *Schutz unseres Lebensraumes: Symposium an der Eidgenössischen Technischen Hochschule in Zürich vom 10.–12. November 1970. Ansprachen und Vorträge*, Frauenfeld: Huber, 1971.
- Leibundgut, Hansjürg, *LowEx building design: für eine ZeroEmission Architecture*, Zurich: Vdf Hochschulverlag, 2011.
- Meadows, Donella H., et al., *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, New York: Universe Books, 1972.
- Roesler, Sascha, "Nach Sparta: zwei Ausstellungen als Plädoyers für eine schwach technisierte Lebensweise," *Kunst + Architektur in der Schweiz*, vol. 60, no. 2, 2009, pp. 6–13.
- Schäfer, Ueli, untitled, *SSES Bulletin*, no. 2, 1975.
- sch (author's abbreviation), "Anfänge einer neuen Zivilisation", *Tagesanzeiger*, May 14, 1975.
- Schumacher, Ernst Friedrich, *Small Is Beautiful: A Study of Economics as If People Mattered*, London: Blond & Briggs, 1973.
- Schumacher, Ernst Friedrich, "Es geht auch anders. Technik und Wirtschaft nach Menschenmaß", *Technologische Rundschau*, vol. 67, no. 19, May 6, 1975.
- Steiger, Peter, et al., *Plenar, Planung, Energie, Architektur*, Niederteufen: Niggli, 1975.
- Zahn, Uwe, "Open letter to the school administration of ETH Zurich", *Bla Bla*, vol. 106, September 8, 1976, pp. 4/5.
- Zahn, Uwe et al. (eds.), *Alternativkatalog 1–3*, Porrentruy: Dezentrale, 1975–1978.