

The war, going as it does, all parties are getting impatient to see at least the foundations laid of a second-rate program. Discontent appears in the daily headlines, week-end pamphlets. Opposing interests fight their battles. And as a result of all this activity, a good example, it may be observed, of democratic method, the worst misconceptions of each move to standardization and prefabrication are beginning to disappear. They are less likely to be completely corrected than they are to be corrected at all. It has been conclusively proved (for instance in the February 1943 issue) that standardization of domestic appliances would result in an enormous saving of materials and labour, a surprising drop in costs and a considerable

use in the standard design. But with this particular point of view, the problems in design for everyday things have ever more come to the fore. Modern Equipment and a sudden boom from 1935 to 1937 when five or six books were published at the same time, and several large exhibitions were held, were the signs of a more conscious design movement. The design movement had a long period revival, in fact, and perhaps on a more solid foundation, debates have started again, chiefly around the Board of Trade's writing institutions which have (with one exception) proved sadly unimpressive. A great pity that the Ministry of Information, the Ministry of Transport, the Ministry of Food and some other Government Departments. Recent letters to the papers a program utility goods have shown a hollow lack of understanding of what the utility movement is all about. The utility movement is not a movement, it is a fact. The utility movement have been better than utility functions. The utility working-groups, at

But while public effort has so far produced deplorably little of good design in the acceptance sense, and while private enterprise has not been able to put new ranges of goods into the market, the Government has been able to do much to stimulate design activity everywhere that meets the eye. The foundation by a group of advertisers of Herbert Read's Design Research Unit was a significant symptom. It was followed by John Glegg's *The Mixing Technique*. Concurrently the Darlington and Naffield Trusts have been working on their comprehensive report on the future of the Visual Arts, including Industrial Design. Other preparations are going on behind locked doors in the studios of the manufacturers. What, then, is the situation of design in the United Kingdom today? It is everywhere, but it is not as good as it should be. For manufacturers do know that design influences sales, even if not necessarily the best design produces the best sales.

THE ARCHITECTURAL REVIEW has been waging the battle for modern industrial design since the last war. The 1923 Christmas number is still one of the best, fully illustrated issues of the magazine. It contains a number of articles on modern design equipment. The time now seems to be ripe for something in the nature of a monthly bulletin from the Design Project. This is what the Design Review is meant to be. It will contain photographs of modern design objects, and articles on the design of new articles of price, new materials, or new uses of old materials, or new methods, or questions of design organization, design education, public exhibitions of design, etc., etc. The objects shown may be designer-designed or—much as this illustration is made with a camera or by nobody in particular. They may be British or foreign, mass-produced or produced on a small scale, and they may be machine-produced or hand-produced, although the machine-produced objects are the more numerous. The objects are to be of mass production. Some of the objects on the following pages and in the following numbers though well known to many, are not usually shown at their visual qualities. They are not yet in production; I still recall, however, which these objects are and where they are made.

[illegible]

enable 'a discussion of new designs, new materials and new processes ... as a reminder of the specific visual qualities of our age which war necessities are bringing out in their purest form, and which a more carefree and fanciful post-war world should not forget'.³ In the first instalment, quasi-abstract images of insulating materials such as Rosilux and Isoflex, panels of artificial expanded rubber such as Onazote, and of fibreglass were presented like novel ideas for Christmas presents. Later instalments presented consumer products that were more deliberately frivolous.⁴

The first stage consisted more in economising than in innovating.



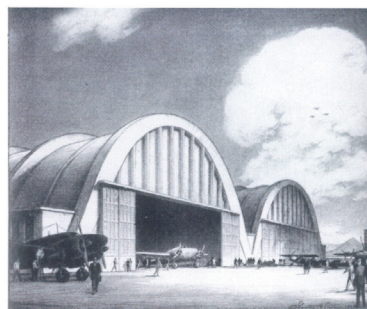
The preoccupation with conserving material led to a new ethic of the project, based on economy. The issue of *The Architectural Record* that followed the attack on Pearl Harbor could not have been more explicit, when it affirmed that 'Total war means all-out conservation' and applied this slogan to all elements of building, including structural materials and plumbing.⁵ The War Production Board, created in Washington in 1942, issued more than three hundred

'Design Review',
article in *The Architectural
Review*, June 1944.
CCA Collection

orders of 'limitation' or 'economy of materials' in the first six months of its operation. It immediately called for 'American ingenuity' from the country's architects and engineers: 'The basic rule of conservation . . . is to eliminate the use of critical materials or to substitute materials that are less critical for the more critical ordinarily used; or through the use of materials that are entirely non-critical. To do this, changes in design and type or method of construction are usually necessary - the abandoning of the usual or "latest" forms is often essential in order that the goal may be attained. The answer is often found in "reverting to type", or those forms previously used and until recently superseded by more advanced methods.'⁴ Another response lay in the simplification of production processes. Thus the American Portland Cement Association claimed in its advertisements

Wood Reinvented

Innovation became an official policy in all the nations at war. One of the most remarkable examples of this direction was the discovery of the potential of wood. Even if torrential 'storms of steel' were falling that were even heavier than those Ernst Jünger had described in 1914–1918, I would venture the hypothesis that one of the most significant materials developed during the war was wood. The kind of wood in question did not come directly from sawmills, even if the Chicago School of Design under László Moholy-Nagy worked on furniture springs and mattresses from wood strips in order to replace metal wire, a programme undertaken in another form in Great Britain as well.⁹ Instead, it was a reinvented wood, widely used as a substitute material, for example to take the place of steel in the truss work for the large shelters for the US Navy. In 1944, *The Architectural Forum* noted that 'With the suddenness of Pearl Harbor, steel virtually disappeared



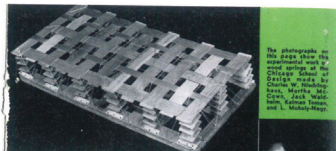
Directed by Christine B. Price at Long Street Concert Center

War Speeds Concrete Progress

'War Speeds Concrete Progress', advertisement in *The New Pencil Points*, June 1943.
CGA Collection



With metal springs out for the duration, wooden springs are being called on to provide comfort in upholstered furniture and bedding. A variety of types have been designed, all based on the natural resiliency of wood, and a few of these are now in production. In addition to individual spring designs, numerous ideas are being tried out by bed spring manufacturers, involving the use of wood slats, crossed webbing, cantilever construction, etc. Most publicized of the new wooden springs is the Victory or "V" Spring developed by the School of Design in



The photograph on this page shows the experimental work of the Chicago School of Design. It is a close-up of a wooden spring mechanism, showing the intricate details of the wood slats and the way they are joined together.

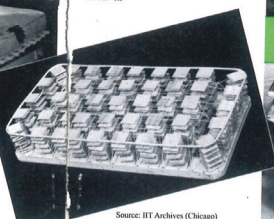
"SLEEP LIKE A LOG"

On New Wood Springs

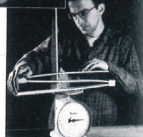


Examples shown and in use by Strand & Co. Company

Chicago and pictured on this page. I. Moholy-Nagy, Director of the school, claims that his wooden springs can simulate any metal spring of any compression weight. Tests, intended to equal ten years' wear, indicate them to be fully as durable as metal springs and equally satisfactory in performance. Like metal springs they lose some of their flexibility from fatigue, but unlike metal springs they recover it.



Source: IFT Archives (Chicago)



Jack Winkelman, student of the Chicago School of Design, improves the compression weight of a "V" Spring during "The School of Design" experiment, August 2, 1943.



RILCO Laminated Wood PLYBEAMS

for flat roof structures of one and two stories



DESIGNED, ENGINEERED AND FACTORY FABRICATED FOR YOUR JOB

The RILCO Laminated Wood Plybeam is a new type of structural member designed for flat roof structures of one and two stories. It is made of laminated wood, and is designed to be used in a variety of applications. It is a strong, durable, and easy-to-install member that can be used in a variety of applications. It is a new type of structural member that is designed for flat roof structures of one and two stories. It is made of laminated wood, and is designed to be used in a variety of applications. It is a strong, durable, and easy-to-install member that can be used in a variety of applications.

RILCO
RILCO LAMINATED PRODUCTS, INC.
1100 North Dearborn Street, Chicago, Illinois

as a structural material for building frames. Wood, however, in replacing it, has proven so good a substitute that it is undoubtedly slated for a peacetime popularity it has not known since the introduction of steel construction. With war, long span trusses... in turn made the rapid erection of hangars and shops possible. The wartime use of laminated wood arches and plywood girders

Top: "Sleep like a Log" on New Wood Springs', advertisement for mattress springs designed by László Moholy-Nagy at the School of Design, Chicago, in *Bruce Magazine*, May-June 1943. Illinois Institute of Technology Archives

Bottom: Advertisement for 'RILCO' laminated wood plybeams, for flat roof structures of one and two stories', in *The Architectural Forum*, May 1943. CCA Collection

are developments which designers are eager to adopt for 194X buildings.¹⁰

Indeed, progress in the chemistry of resins and adhesives permitted the use of small pieces of wood, assembled to form beams, trusses and arches, whose strength was comparable to similar elements in metal. This recourse to smaller pieces of wood was all the more crucial as the consumption of wood became all-devouring. Glued up laminates became available in a variety of structural pieces and enabled

the construction of dirigible hangars or large sheds like the 2-million-square-foot Douglas Aircraft factory erected by the Austin Company at Orchard Place in Chicago - now the location of O'Hare Airport. The difference between these

Charles Eames
Ray Eames
Prototype for a glider nose piece of moulded glued-up wood laminate, in Anthony Denzer, *The Modern Home as Social Commentary*, 1943. CCA Collection





American solutions and those imagined without recourse to phenolic resins can be gauged by reading the issue that the French periodical *Techniques et architecture* devoted to wood in 1942. While the patriotic precedents of the curved girders invented by Philibert de l'Orme are justifiably invoked, the assemblages built up by using dowels, braces and bolting were far from performing at the level of those made of glued-up wood laminates.¹¹ In Italy, large three-hinged arches made of smaller elements of wood woven into lattices were also fabricated for factories and for the army.¹² By combining small pieces of wood and the techniques of moulding, Charles and Ray Eames designed nose pieces for transport gliders in 1943 that were made from moulded glued-up wood laminate. And Jean Prouvé, for his part, temporarily abandoned his research into steel furniture to design a chair in 1942 that was 'entirely in wood'.¹³

The use of plywood, a material invented in the 19th century, as Nikolaus Pevsner recounted in great detail in 1938 and 1939 in the pages of *The Architectural Review*,¹⁴ became widespread due to its qualities, if not its price. As the same magazine affirmed: 'In plywood the composite construction serves to tame the wood to such a degree that it is in effect an entirely different material; one about which there has been a good deal of misunderstanding, and which in the minds of many is still a cheap substitute for something better. This is a double fallacy because, in addition to being fundamentally different from solid

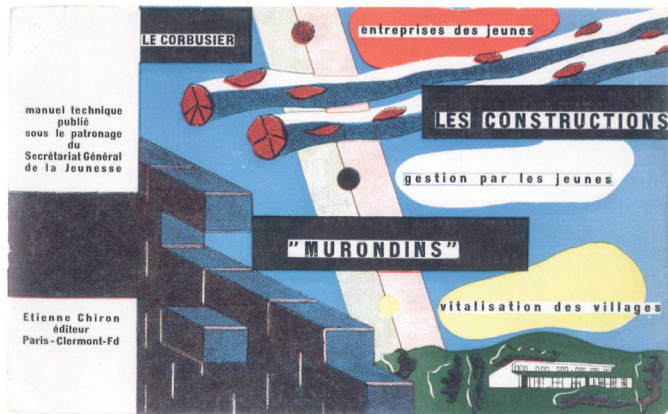
Charles Eames
Ray Eames
Leg splint, moulded
plywood, 1943.
The Metropolitan Museum
of Art, New York

wood, it is not in fact a particularly cheap material.¹⁵ But this was not the problem, and its uses proliferated because powerful presses and casts were able to give it complex concave shapes, but most of all because of the new phenolic glues. Some airplanes, like the de Havilland Mosquito, had frames made of plywood impregnated with resin; this modern material was limited to military use in Great Britain. In the United States, where it became commercially available under different labels, such as Plymold, the 'wood that bends',¹⁶ was used by László Moholy-Nagy at the Chicago School of Design to make moulded chairs. Between 1943 and 1945, Charles and Ray Eames employed it to make tailpieces for airplanes, and also for splints and litters in moulded plywood that seem to belong as much to the field of sculpture as to that of paramedical equipment. In the densely wooded country of Finland, the architect Karl Stigzelius worked on polygonal-shaped plywood tents in 1941 and 1941 with the manufacturer Parviainen.¹⁷ As wood became increasingly rare due to the extent of its use, smaller and smaller pieces were recycled, for example in Homasote panels, consisting of wood pulp and bits of newspaper. In Great Britain, the use of wood in aviation led to its rationing in other industries.¹⁸

Alongside these technical and plastic advances, trees continued to be used in much less sophisticated ways. Le Corbusier, the champion of reinforced concrete, resorted to very primitive techniques in his designs for the 'Maisons Murondins', in the context of the 'return to the land' called for by the Maréchal Pétain after the French surrender. Given the lack of shelters produced in the workshop, 'The solution appeared like the egg of Columbus: the shelter must be built in situ, with unworked (or scarcely worked)

materials found on-site, with earth, sand, wood from the forest, branches, bundles of sticks, and clumps of grass.'¹⁹ The wood was to consist of unsquared logs set by volunteers with help from the qualified craftsmen of the Compagnons de France. This project for 'provisional rural villages' was part of a series of ventures using traditional techniques for wood. The same applied to construction in Finland with trunks or logs from birch trees during the Continuation War with the Soviet Union. Conceived by the designer Ilmari Tapiovaara, among others, they are of astounding plastic quality.²⁰ On the other side of the front, the Russians would have massive recourse to the simplest wood constructions for the needs of both the front and the rear.

Le Corbusier
Cover of *Les Constructions*
'Murondins', 1942.
CCA Collection



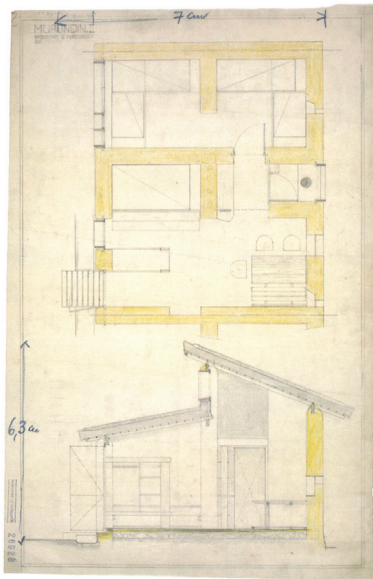
In his entry for a competition organised by Gio Ponti, the director of *Stile*, Carlo Mollino developed furniture derived from wooden airplane propellers, whose characteristic features, notably their continuity, absence of visible joints and resistance to torsion were 'the modern criteria that determined the form of aircraft construction when it was based on wooden structures, and where durability, reliability and ability to resist warping are indispensable. So it is in the construction of propellers and skis, where the use of plywood is now common, due to its advantages of reliability and cost.'²¹

Synthetic Products

The shortage of steel led to innovative solutions, the first of which were developed in Italy, starting in 1936, where reinforced concrete was recommended as a fundamental building material, to be dressed in marble or ceramic tiles for public buildings. Lightweight reinforced concretes, as well as concrete reinforced with bamboo, were also developed.²² Several modern architects, such as Giuseppe Pagano, tended to resist the excesses of these campaigns and took positions against the 'mystique of autarchy' that was a point of pride for the publications of the regime.²³ At the same time, industry was finding its own solutions and developed innovative uses for aluminium, which Italy produced in quantity. Carlo Emilio Gadda, a writer trained as an engineer, had already devoted a hymn to aluminium in 1931.²⁴ Artificial rubber, asbestos, wood particle boards – Populit – and fibreglass were all widely distributed. The leading figures

of the profession discussed the issues of autarchy in 1938 in the columns of the *Popolo d'Italia*.²⁵ After studying a construction system of concrete reinforced with wood, the engineer Pier Luigi Nervi developed the technique of 'ferrocemento', using steel mesh.²⁶

Le Corbusier
Maisons 'Murondins',
plan and section, 1940.
Fondation Le Corbusier



The directives applying to construction ranged from encouragement to constraint, and in some cases, to the complete banning of civil construction. The passage occurred smoothly in Germany, where the spectre of the restrictions of the First World War, which had led to a fateful demoralisation of the population, was still present. On the other hand, British industries strongly protested in 1940 against the curtailment of non-priority programmes, and they continued the debate thereafter²⁷ – which shows in passing that democratic life continued in wartime Great Britain. In the United States, the regulation of civil production was not achieved by

interdiction, but by drawing up lists of priority materials that private builders could not obtain.²⁸ The sheer volume of construction in the United States required the invention or dissemination of new types of basic building materials, associated with the development of prefabrication. The plaster panels of the United Gypsum Company were used to build houses. One of the most successful materials in this connection was Cemesto, a construction panel of asbestos cement with a core of sugar cane fibres developed by Celotex.

But the most important changes in materials brought on by the war were

Advertisement
for 'Populit',
in *Costruzioni Casabella*,
February–March 1942.
CCA Collection

populit

MATERIALI LIGNERI DA COSTRUZIONE
ISOLANTE TERMICO ED ACUSTICO



PARETI ESTERNE
E DIVISORI DI
SOFFITTI-SOLAI

INVESTIMENTI DI
PARETI PER ISOLA-
MENTO ACUSTICO
E TERMICO

FORNITURA DI SETTI
PER ISOLAMENTO
TERMICO



UFFICI COMMERCIALI: ANCONA - BARI - BOLOGNA - BOLZANO - FIRENZE
MILANO - NAPOLI - PADOVA - PALERMO - ROMA - TORINO - VENEZIA

ISOTOPONDI
DI PAVIMENTI
PROTEZIONE TERMICA
DI COPERTURE
A TERRAZZA
COMODOTTE
ELETTRICHE
CANCELLATE



LE TIRRE DI VETRO E LE LORO
APPLICAZIONI NELLE EDILIZIA

Il vetro è un materiale che ha conosciuto in questi ultimi anni una vera e propria rivoluzione. Le sue applicazioni nell'edilizia sono sempre più numerose e variegate. Si va dalla semplice vetrata di un appartamento alla vetrata di un palazzo, dalla vetrata di un ufficio alla vetrata di una fabbrica, dalla vetrata di un teatro alla vetrata di un museo. In ogni caso, il vetro è un materiale che ha una grande importanza nell'edilizia moderna. Le sue applicazioni sono infinite e le sue possibilità sono vastissime. In questa brochure, vi presentiamo alcune delle applicazioni più recenti del vetro nell'edilizia. Saremo lieti di ricevere le vostre richieste e di fornirvi tutte le informazioni necessarie.



LA TIRRE DI VETRO E LE LORO
APPLICAZIONI NELLE EDILIZIA



A black and white photograph showing two men in hats working on the exterior of a building. They are installing a large, rectangular panel onto a wall. One man is holding the panel steady while the other uses a long, thin tool, possibly a pry bar or a level, to assist in the installation. The building has a flat roof and a window is visible in the background.

'Celotex Cemesto Homes', in *Techniques et architecture*, November 1945.
CCA Collection



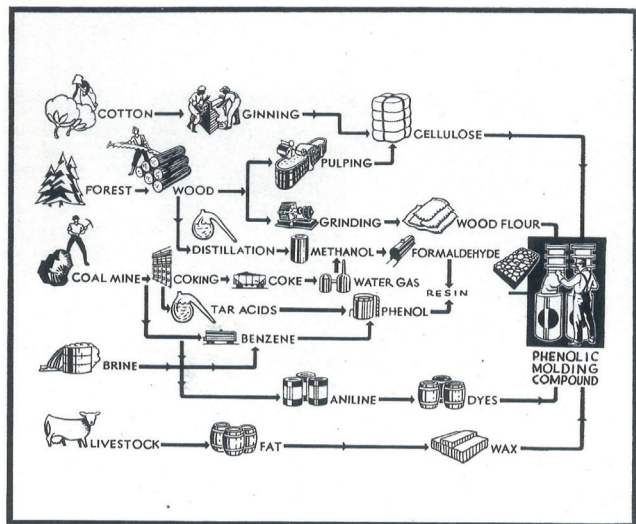
in all fields. The British mass-produced inflatable tanks and landing craft for use as decoys in camouflage and diversionary operations, while the use of inflatable life rafts became increasingly common on ships and aircraft.³² In construction, pneumatic structures appeared on building sites, with the American architect Wallace Neff using them as reusable moulds to make houses in sprayed-on concrete.

Raymond Dickey,
**'The New World of
Plastics'**, article in
The New Pencil Points,
January 1943.
CCA Collection



by Raymond R. Dickey,
Editor, "Modern Plastics"

Miklos G. Miklos has said in a recent address, "Altogether French are experimenting with piano housing which they call



TRANSPARENT MODEL OF FLOWER SYSTEM



PLASTIC-PLYWOOD FUSELAGE, WEIGHT 10 LBS.

Recycling, Insulation and Substitution

The use of earth, plaster, particles and small pieces of wood was encouraged and became a major factor in industry. Recourse to these 'poor' materials cannot in any way be seen as a technical 'regression', for it relied on innovative production methods. In addition, every possible means was explored to organise the recovery and

Top: The production of plastics, diagram, in E. F. Lougee, *Plastics from Farm and Forests*, 1943. Getty Research Institute

Bottom: 'Plastics catalogue', illustration in *The Architectural Forum*, March 1943. CCA Collection

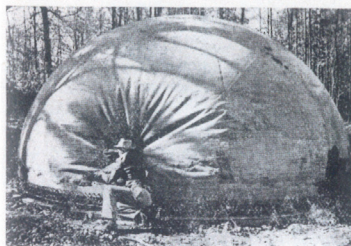
reuse of metals. In occupied Paris, monumental statues were dismantled and melted down, while in London a campaign to take down the fences around private squares was underway.³³ In Marseille, the engineer Robert Lavocat and the architect Jacques Couëlle invented 'ceramic spindles' in the form of truncated cones to enable the construction of inexpensive vaults.³⁴

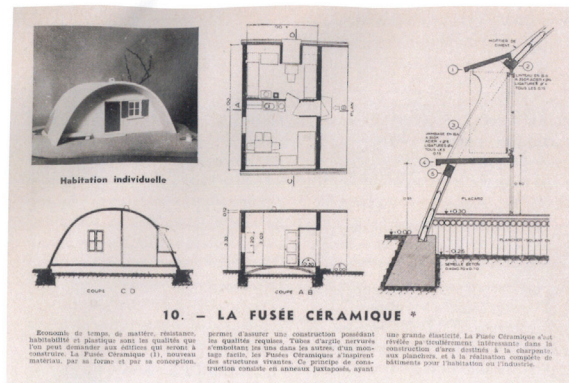
The energy consumption of dwellings was a particular focus of attention, and in America it led to what was no doubt the first campaign for thermal insulation, by means of insulating panels of wood scraps, compressed straw and cotton fibre, whose production grew rapidly.³⁵ The notion of conservation was applied to energy consumption, in building construction that used technologically simple materials in the place of thick masonry construction.

For the French, one German term more than any other came to express all the shortages of the occupation:

Ersatz [substitute], used in relation to coffee, chocolate, fabrics, etc. Issues of substitution were widespread during the war. In Paris, Henri-Marcel Magne, a professor at the Conservatoire National des Arts et Métiers and a member of the Collaboration group, organised in 1942 an exhibition on 'replacement materials' for the Société d'Encouragement pour l'Industrie Nationale.³⁶ This policy of substitution, carried forth on a global scale, occasionally led to strange results: in 1941, because the green colour on packs of Lucky Strike cigarettes contained metal, Raymond Loewy was asked to rethink the design of the packaging.

'Construction of a "balloon" house' [project by Wallace Neff], in *Techniques et architecture*, November 1945. CCA Collection





The Housewife, Combatant and Manager

While construction materials were being regulated through rationing and the administrative regulation of markets, households were also subject to significant programmes of restriction. The distribution of both organic and artificial substances, whether for food, for textiles, or for cleaning and repair of buildings was carefully and parsimoniously controlled. Cities were the bastions of the home front in the system put in place to wage total war and they in turn consisted of myriad small forts: each and every dwelling was mobilised from the very first days of war. War culture affected every practice within the house, and the domestic

component was celebrated in the press and in film and radio just as much as the military component.³⁷ As had been the case twenty-five years earlier, a general policy of rationing was introduced in the warring nations, which regulated access to foodstuffs, textiles and tobacco. Highly visible campaigns were launched to convince families to consume materials sparingly and to recycle waste. Every form of persuasion was put to use and applied across the board, from food to underwear. The Scandale brand of girdles, for example, invited Frenchwomen under occupation to extend the life of their intimate apparel.³⁸ Transformed into a household manager – the French word *ménagère* (housewife) shares the same

Top: The ceramic spindle barrel-vault hut, in *Techniques et architecture*, July 1945. Collection of the author

'Save Fuel . . . Insulate your Home' poster, c. 1942. Harry Ransom Humanities Research Center, The University of Texas at Austin

SAVE FUEL..

INSULATE YOUR HOME

FUEL IS A WEAPON OF WAR... DON'T WASTE IT

Ask your Building Materials Dealer about
Insulation Board for Homes..Attic rooms..Garages..Windows

SPONSORED BY
INSULATION BOARD INSTITUTE
FOR U.S. GOVERNMENT

root as the English 'manager' – the mistress of the house was asked to 'plan', to 'conserve' and to 'recover', according to the terms of an American poster of 1942, entitled 'Homemaker War Guide'. The domestic battle station was transformed by these kinds of measures, and they affected the very concept of buildings and their interiors. In the United States, homes participating in these programmes displayed a sign on their window that stated 'This is a V Home'. Specific manuals were developed to help builders and residents follow the technical prescriptions, such as the *War-Time Guide Book for the Home*, whose subtitle was 'Make It Yourself, Fix It Yourself'.³⁹ The guiding principles were economy and self-sufficiency in maintaining and managing the home, which entailed significant revisions to home economics manuals, a very widespread literary genre.

In terms of food preparation, the war further extended the programmes for the rationalisation of domestic space that had started prior to 1914 with Christine Frederick and had developed after 1925 with the Frankfurt kitchen, the most radical form of a domestic space structured like a workspace. With the management of food supplies and the transformations in foodstuffs demanded by the war, it was no longer enough for women to simply be domestic producers. In the United States, in addition to the half a million women mobilised into the armed forces, another five million of them were employed in the defence industries.⁴⁰ In the absence of men, many women became both housewives and heads of family, and they were urged by official campaigns, by food corporations,



'Restrictions', advertisement for Scandale girdle, in *L'Illustration*, 24 May 1941. Collection of the author

and by women's magazines, from the *Ladies' Home Journal* to *Good Housekeeping*, to become veritable managers at the heart of the home. They organised children into squads and assigned them tasks, they planned meals and food shopping in advance, they stocked the refrigerator judiciously, and used their rationing tickets carefully.⁴¹ New types of prepared, ready-to-eat foods began to appear, in addition to the substitute foodstuffs that were currently on the menu for families of all countries, from saccharine and powdered eggs to coffee made from roasted cereals.



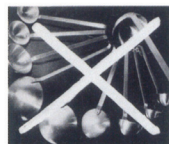
'Help Bring Them Back to You!', poster, 1943. The Wolfsonian-Florida International University, Miami Beach, Florida, gift of Leonard A. Lander

From 'Useful Objects' to the Utility Scheme

Cultural institutions continued to play a distinct role in persuasion campaigns aimed at educating consumers and guiding them, when the market continued to function, towards reasonable purchases. In 1942, The Museum of Modern Art in New York put together an exhibition entitled 'Useful Objects in Wartime', imparting an aura to the most modest of domestic objects made from non-strategic materials. As the fifth in a series devoted to everyday objects costing less than ten dollars, this exhibition followed the criteria established by the Conservation and Substitution Branch of the War Production Board. The prescriptions

of that administrative branch served as the programme for the exhibition, which consisted of three sections: 'Household objects made of non priority materials; articles asked for by men and women in the Army and Navy; and supplies necessary for adequate civilian defense'.⁴² The exhibition fulfilled a double mission: to make consumers more vigilant in their decisions, avoiding 'critical' metals such as nickel, copper, aluminium, tin and steel, along with plastics such as lucite, Plexiglas,

'Useful Objects in Wartime', two-page spread in the *Bulletin of the Museum of Modern Art*, December 1942-January 1944, CCA



STEEL is critical.



ALUMINUM supplies are not adequate for military needs.



CHROMIUM is required for the war; civilians must do without.



LUCITE and PLEXIGLAS are usually needed in airplane construction. NYLON is used for parachutes.



The Japanese now control the major TIN deposits.



Don't buy BEETLEWARE or BAKELITE; they are needed for war equipment.

nylon, and other materials used for aircraft, and at the same time to help them acquire a taste for functional and innovative objects.

The rationing of consumer objects was already the rule around the world, but the most extensive policy was deployed in Great Britain, with the ambitious Utility Scheme, or public interest programme, elaborated by the Board of Trade in 1943. It put in place a veritable public administration for the production of everyday objects. Redefining the catalogue of producers, it promoted the most efficient use of materials and labour not only in the production of furniture, but also for glassware, clothing, lingerie and shoes.⁴³ This series of measures affected design as much as production, and aimed at drastically reducing the range of objects

Objects on display in the 'Useful Objects in Wartime' exhibition. Clockwise, from lower left: Russel Wright, *American Modern* salad bowl, glazed earthenware, manufactured by Steubenville Pottery Company, Steubenville, Ohio, 1937. Attributed to Paul V. Gardner, lower section of *Flameware* double boiler, Pyrex glass and wood, manufactured by Corning Glass Works, Corning, New York, c. 1940. Peter Schlumbohm, Chemex coffee pot, glass, wood and leather, manufactured by Chemex Corp., New York, c. 1939. Attributed to Paul V. Gardner, double boiler, Pyrex glass and stainless steel, manufactured by Corning Glass Works, Corning, New York,

c. 1937. Designer unknown, *Silver Streak* iron, Pyrex glass and chromium-plated steel, manufactured by Corning Glass Works, Corning, New York, and Saunders & Tool Corporation, Yonkers, New York, 1943. The Liliane and David M. Stewart Program for Modern Design Salad bowl, lower section of double boiler and coffee pot: gift of Dr Michael Sze Double boiler: gift of Eric Brill



utility furniture



UTILITY FURNITURE
The Utility Furniture programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable furniture for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of furniture that was both functional and aesthetically pleasing.

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11	12	13	14	15	16
17	18	19	20	21	22
23	24	25	26	27	28
29	30	31	32	33	34

bathroom equipment



BATHROOM EQUIPMENT
The Bathroom Equipment programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable bathroom equipment for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of bathroom equipment that was both functional and aesthetically pleasing.

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35	36	37	38	39	40
41	42	43	44	45	46
47	48	49	50	51	52
53	54	55	56	57	58

kitchen equipment



KITCHEN EQUIPMENT
The Kitchen Equipment programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable kitchen equipment for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of kitchen equipment that was both functional and aesthetically pleasing.

The programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable kitchen equipment for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of kitchen equipment that was both functional and aesthetically pleasing.

The programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable kitchen equipment for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of kitchen equipment that was both functional and aesthetically pleasing.

59	60	61	62	63	64
65	66	67	68	69	70
71	72	73	74	75	76
77	78	79	80	81	82

pottery



POTTERY
The Pottery programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable pottery for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of pottery that was both functional and aesthetically pleasing.

The programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable pottery for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of pottery that was both functional and aesthetically pleasing.

The programme was set up by the Ministry of War Transport in 1942. It was a response to the need for simple, functional, and affordable pottery for the war effort. The programme was led by Gordon Russell, who was a member of the Utility Design Panel. The programme was successful in producing a wide range of pottery that was both functional and aesthetically pleasing.

83	84	85	86	87	88
89	90	91	92	93	94
95	96	97	98	99	100
101	102	103	104	105	106

offered for consumption, shaping material culture in Britain for an entire decade. The programme was set up by a Utility Design Panel, under the direction of the designer Gordon Russell. It included manufacturers and designers, and was accompanied by a vigorous propaganda campaign, leading to exhibitions such as the one in the West End of London in 1942. Its programmes aimed at formal simplicity, at reducing redundancies between objects that simply differed in outward appearance, and especially at the elimination of decoration, which was considered too costly in terms of materials and labour. In keeping with these goals, the porcelain producer Wedgwood marketed a simplified Victory china.⁴⁴ As *The Architectural Review* would observe in 1946, 'Much of the utility furniture that was produced during the war met with a somewhat discouraging reception from the general public.'⁴⁵ The Czech architect Jacques Groag, a disciple of Adolf Loos, was one of Russell's principal collaborators. In 1946, Russell wrote up a very favourable account of the programme, and said of Groag: 'The modern movement was in his blood and he provided exactly the right counter-irritant to the most prosaic outlook which might so easily have grown up owing to the bludgeoning of difficulties and shortages of every kind. It was so

fatally simple to take the easiest solution, and let many details go on in the way the trade has always done them.'⁴⁶ The proponents of modern architecture expected this programme to bring to fruition those experiments in everyday objects that had taken place in the 1930s, particularly in the realm of public housing. The war would thus act as a kind of accelerator in the transformation of taste, as *The Architectural Review* indicated as early as 1943, formulating the expectation that the first attempts to link 'utility and austerity' would lead to 'utility furniture in thousands of houses, of the workmanship of this first batch and, on top of that, of cheerful design could indeed become a corner-stone of a successful housing policy. Once people could sincerely like their State-aided furniture purchases, besides appreciating their usefulness, they might very well, by such gaiety and pleasurable domesticity, be cured of their longing for bogus glamour.'⁴⁷ As Loosian a proposition as ever there was.

The Victory in the Garden

Even the garden went off to war, insofar as it was used for producing food that would offset some of the deficiencies and restrictions of rationing, or even sometimes

'Utility Furniture',
'Bathroom Equipment',
'Kitchen Equipment' and
'Pottery' in *The Architectural Review*, October 1946.
CCA Collection

as a means of resistance, as was the case in the ghetto gardens and gardens in prison camps.⁴⁸ 'Victory gardens', which provided nourishment for families to supplement the foodstuffs commercially available, spread throughout Great Britain, Canada and the United States,⁴⁹ with daily labour in the flower beds serving as a simulacrum of normality, thereby boosting morale. The breakdown of economic networks and the evacuation of the cities led many families to rely on their personal agricultural activities to feed their families. This was the case of scores of architects who had been spared mobilisation but were deprived of professional employment. They transformed themselves into farmers, like Berthold Lubetkin, who withdrew to his farm in Wotton-under-Edge, in Gloucestershire. His colleague Wells Coates came upon him at work in his field and described him thus: 'The farm is a mixed one, that is to say it is partly dairy and partly arable. Nowadays, of course, everybody is growing as much food as possible and the farms of England haven't been so prosperous or so busy for a very long time. There are wheat, barley,

oats, dredge corn, root crops, potatoes and other growing crops, as well as about 40 heads of cattle.'⁵⁰

In the United States, the wartime vegetable gardens continued the programme that the Homestead Movement had first formulated in the nineteenth century and that had been taken up again during the New Deal with the aim of giving each household one acre for a productive garden. This new development provided retrospective justification, while making it possible to produce conserved fruits and vegetables to feed families. By 1943, two-thirds of households would have a 'victory garden'. For his part, the Nazi landscape architect Alwin Seifert produced designs for wartime gardens that proliferated in Germany⁵¹ as a continuation of the policy of the *Selbstversorgersiedlungen*, or self-sufficient housing estates, which had grown up around the periphery of large cities after the crisis of 1929. Thus the tendencies towards de-urbanism, or at least for some reconciliation of urban dwellers with the earth, took form, under the pressure of necessity, in concrete initiatives.

'Plant a Victory Garden', poster, 1943.
The Wolfsonian-Florida International University,
Miami Beach, Florida,
gift of Leonard A. Lauder

PLANT A VICTORY GARDEN



A GARDEN WILL MAKE YOUR RATIONS GO FURTHER

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1. 'Introduction', *The War-Time Guide Book for the Home* (New York: Popular Science Publishing Co., 1942).
2. Herbert L. Whittemore, 'Material Shortages: Redesign and Substitution', *Engineering News-Record*, 15 January 1942, 144–66. Quoted in Robert Friedel, 'Scarcity and Promise: Materials and American Domestic Culture During World War II', in *World War II and the American Dream. How Wartime Building Changed a Nation*, edited by Donald Albrecht (Washington: National Building Museum; Cambridge, Mass.: MIT Press, 1995), 55.
3. 'Design Review', *The Architectural Review*, vol. 96, no. 573 (September 1944), 87.
4. On the editing of the section, see Jill Seddon, 'The Architect and the "Arch-Pendant": Sadie Speight, Nikolaus Pevsner and "Design Review"', *Journal of Design History*, vol. 20, no. 1 (2007), 29–41.
5. 'Total War means All-Out Conservation', *The Architectural Record*, vol. 91, no. 1 (January 1942), 40–48.
6. Lessing J. Rosenwald, Bureau of Industrial Conservation, War Production Board, 'To the Architects and Engineers of the United States', *Pencil Points*, vol. 23, no. 5 (May 1942), 260.
7. Advertisement for the Portland Cement Association, *Pencil Points*, vol. 23, no. 6 (June 1943), 28.
8. Howard Robertson, 'Structural Economy', *The Architect and Building News*, no. 29 (March 1940), 298.
9. 'Wooden Springs', *Business Week*, 31 October 1942. "Sleep Like a Log", on New Wood Springs, *Bruce Magazine*, May–June 1943, press clipping, IIT Archives, Chicago.
10. 'Materials for 1942', *The Architectural Forum*, vol. 80, no. 3 (March 1944), 12.
11. Le Bois, *Techniques et architecture*, vol. 2, nos. 7–8 (July/August 1942), 236–328.
12. 'Grande carpenteria in legno compensato', *Costruzioni Casabella*, vol. 26, nos. 184–85 (April/May 1943), 77.
13. Peter Sülzer, *Jean Prouvé: Complete Works*, vol. II, 1934–1944 (Basel, Boston and Berlin: Birkhäuser, 2000), 284.
14. Nikolaus Pevsner, 'The First Plywood Furniture', *The Architectural Review*, vol. 84, no. 501 (August 1938), 75–76, and 'The History of Plywood', *The Architectural Review*, vol. 86, no. 514 (September 1939), 129–130. In the same issue, the *Review* published a supplement on the uses of plywood, p. 133–42.
15. 'Plywood as a Material', *The Architectural Review*, vol. 86, no. 514 (September 1939), 134.
16. Al Bernsöhn, 'The New Wood That Bends', *Id Design*, April 1941, 22–23.
17. My thanks to Timo Keinänen at the Finnish Museum of Architecture for this information.
18. The rationing of wood started in Great Britain with a 'Control of Timber Order', issued as early as 5 September 1939.
19. Le Corbusier, *Les Constructions "Muronins"* [Paris and Clermont-Ferrand: Étienne Chiron, 1942], 7.
20. See Erkki Helamaa, 40 Luku. *Jorsujen ja jällenrakentamisen vuosikymmen* (Helsinki: Suomen rakennustaiteen museo, 1983).
21. Carlo Mollino, 'Proposizioni sui mobili tipo che i costruttori di mobili sono invitati a leggere', *Stile*, no. 31 (July 1943), 33–37; quoted in Giovanni Brino, *Carlo Mollino. Architecture as Autobiography* (London: Thames and Hudson, 1987), 90.
22. Sergio Poretti, 'Modernismi e autarchia', in *Storia dell'architettura italiana*, edited by Giorgio Ciucci and Giorgio Muratore (Milan: Electa, 2004), 442–75.
23. Giuseppe Pagano, 'Variazioni sull'autarchia architettonica', *Casabella*, no. 129 (September 1938), 2–3, and no. 130, 2–3.
24. Carlo Emilio Gadda, 'I metalli leggeri', *L'ambrosiano*, 2 September 1931, 1–2; referred to by Poretti, 'Modernismi e autarchia', op. cit. note 22, 459.
25. See Pep Aviles' unpublished paper 'Italy 1938: the Autarchic Debate', at the 'Front and Rear' conference held at New York's Institute of Fine Arts in March 2009.
26. Pier Luigi Nervi, 'Per l'autarchia. I problemi economici delle costruzioni e la politica dell'architettura', *Il Giornale d'Italia*, 23 July 1938, 3.
- Idem, 'Per la massima autarchia edilizia', *Costruzioni Casabella*, vol. 12, no. 147 (March 1940), 3. See Riccardo Dirindin, *Lo stile dell'ingegneria. Architettura e identità della tecnica tra il primo modernismo e Pier Luigi Nervi* (Venice: Marsilio, 2010), 194–95.
27. 'The Voice of the Industry', *The Architect and Building News*, January 1940, 43–49, and 16 and 23 January 1942.
28. Roger Wade Sherman, 'What Priorities Mean to Building', *The Architectural Record*, vol. 90, no. 2 (August 1941), 37–40.
29. E. F. Lougee, *Plastics from Farm and Forests* (New York: Plastics Institute, 1943).
30. Stephen Phillips, 'Plastics', in *Cold War Hothouses. Inventing Postwar Culture from Cockpit to Playboy*, edited by Beatriz Colomina. Annmarie Brennan and Jeannie Kim (New York: Princeton Architectural Press, 2004), 90–123.
31. Robert F. Marshall, 'Plastics . . . Practically Speaking', *The Architectural Record*, vol. 93, no. 4 (April 1943), 54–55.
32. Roger N. Dent, *Principles of Pneumatic Architecture* (London: The Architectural Press, 1971), 32–33.
33. Celina Fox, 'The Battle of the Railings', *AA Files*, vol. 29 (1995), 50–59.
34. Pierre Vago, *Une vie intense* (Brussels: Archives d'Architecture Moderne, 2000), 200.
35. 'Insulation Board in Big War Boom', *The Milwaukee Journal*, 25 April 1943.
36. See his lecture, 'L'avenir de la qualité française dans la production européenne', delivered on 10 May 1941, under the auspices of the Groupe Collaboration, at the Maison de la Chimie, Paris, 1941. Henri Poupée, biographical essay in *Les Professeurs du Conservatoire national des Arts et Métiers*, edited by Claudine Fontanon and André Grelon, vol. 2 (Paris: INRP/CNAM, 1994), 184.
37. Alistair Cooke, *The American Home Front, 1941–1942* (New York: Atlantic Monthly Press, 2004).
38. 'Restrictions: so that every woman can have a Scandale girl, make the one you are fortunate to have last', *L'illustration*, 24 May 1941, XXV. See Mike Brown and Carol Harris, 'Rationing', in *The Wartime House: Home Life in Wartime Britain 1939–1945* (Stroud, Gloucestershire: Sutton Publishing Ltd, 2001), 73–94.
39. See the *War-Time Guide Book for the Home*, op. cit. note 1.
40. O'Ann Campbell, *Women at War with America: Private Lives in a Patriotic Era* (Cambridge, Mass.: Harvard University Press, 1994).
41. Susan M. Hartmann, *The Home Front and Beyond: American Women in the 1940s* (Boston: Twayne Publishers, 1982).
42. 'Useful Objects in Wartime', *The Bulletin of the Museum of Modern Art*, vol. 2, no. 10 (December 1942–January 1943), 3.
43. *Utility Furniture and Fashion 1941–1957* (London: Geoffrey Museum and Inner London Education Authority, 1974). Harriet Dover, *Home Front Furniture: British Utility Design 1941–1951* (London: Scholar Press, 1995).
- Judy Attfield, ed., *Utility Reassessed: the Role of Ethics in the Practice of Design* (Manchester: Manchester University Press, 1999).
44. Richard Stewart, *Design and British Industry* (London: John Murray, 1987), 64.
45. 'Utility Furniture', *The Architectural Review*, vol. 100, no. 578 (October 1946), 104.
46. Gordon Russell, 'National Furniture Production', *The Architectural Review*, vol. 100, no. 598, 184.
47. 'Utility and Austerity', *The Architectural Review*, vol. 93 (January 1943), 4.
48. Kenneth I. Helphand, *Defiant Gardens: Making Gardens in Wartime* (San Antonio: Trinity University Press, 2006).
49. A popular television programme on the BBC explored this subject: Jennifer Davies, *The Wartime Kitchen and Garden* (London: BBC Books, 1993). See also *Art of the Garden: the Garden in British Art, 1800 to the Present Day*, edited by Nicholas Alfrey, Stephen Daniels and Martin Postle (London: Tate Britain, 2004).
50. Wells Coates, letter to his daughter Laura Coates, 8 August 1943, CCA, Wells Coates fonds.
51. Charlotte Reitsam, *Das Konzept der "bodenständigen Gartenkunst"* Alwin Seifert: fachliche Hintergründe und Rezeption bis in die Nachkriegzeit (Frankfurt-am-Main and New York: P. Lang, 2001), 190–91.