Italian Design and Democracy

Loredana La Fortuna

PhD, University of Bari Aldo Moro, Italy - Independent Scholar
Email: loredana.lafortuna@gmail.com

Keywords
- Democracy
- The Olivetti case
- Italian post-war history
- Planning
Abstract

This article focuses on Italian design, a field which is particularly apt for study from the critical perspectives of cultural studies, both because of its hybrid, interdisciplinary nature, and because of its implicit imperative to change society, potentially even in more democratic ways. The fact that the Italian language uses the English word ‘design’ to refer to one of the most popular Italian production areas is significant. In Italy, in fact, there is no specific word describing a field that has a number of different connotations at the same time. Sometimes design seems to be a form of art, at times a science, sometimes an aesthetic discourse, or a philosophy of living. By way of reference to bel design, the Italian design of the 1950s, and particularly to the experience of Adriano Olivetti and his company, this article investigates a specific historical and intellectual conception of design as a complex and uneven movement, in terms of its political and ethical propensities. The article asks whether this conception of design is still possible nowadays.

Contributor Note

Loredana La Fortuna has a PhD in the Theory of Language and Sign Sciences from the University of Bari Aldo Moro where she has researched on semiotics and social semiotics with special attention to design. During her PhD she worked on food design with a dissertation entitled La cucina di design. Un’analisi sociosemiotica. She teaches Italian and History in secondary schools and is also the author of the book Raccontare nonostante tutto. Raffaele Nigro e la scrittura.

Citation

Italian design of the 1950s: between aesthetics and politics

I dream of buying a ‘Lady’ armchair. I dream of buying it not just because it is one of the most beautiful pieces of Italian design history, but especially because the ‘Lady’ armchair is the symbol of a specific type of design: a sign of democracy and hope for a dream. In 2011, when Arflex reproduced it in a limited edition sixty years after its first production, I seriously considered buying it. However, as Massimiliano Virgilio says in his novel Arredo casa e poi m’impicco (2014), buying a house and furnishing it is not really an easy task for an Italian thirty-year-old guy today, especially if you work in the field of culture.

The story itself of the ‘Lady’ armchair is one of its most fascinating and appealing aspects. In 1949 Aldo Bai, Pio Reggiani and Aldo Barassi – former Pirelli managers – founded the Arflex company, with the intention of converting military production to the production of consumer goods. The idea was to use foam rubber (a brand new material experimented with in the air force) in the production of furniture. With great foresight, the new company leaders chose to draw some young designers into this endeavor. One of them was Marco Zanuso, already known at the time as the editor-in-chief of Domus magazine, one of the oldest Italian architecture and design magazines, founded in 1928 by Giò Ponti. Two years later, a section-cut ‘Lady’ armchair was exhibited at the IX Triennale di Milano (1951) in order to showcase its innovative and even revolutionary structure.

‘Lady’ armchair was made up of four mass-produced padded parts, separately upholstered and thus easy to assemble. These elements, in fact, were specifically designed to be worked and then assembled according to the production line system. The foam padding, with its natural elasticity, replaced traditional spring upholstery, and was supported by elastic bands attached to a tubular structure made of iron and plywood. Even the elastic bands were made of a new material, Nastrocord, patented in 1948 by Barassi, one of the founders of Arflex (Burkhardt 1994).

The project won the Gold Medal at the IX Triennale and its success was
immediately enormous. ‘Lady’ armchair had introduced a completely new construction process compared to the traditional upholstered armchair, which was made up of a wooden structure with a system of springs and horsehair padding [Drury 1986].

The use of innovative materials and the choice of a brilliant formal solution had allowed the creation of the first low cost mass-produced armchair, an armchair designed for common families which immediately renewed the taste and the organization of the traditional domestic world. Indeed, as François Burkhardt, the author of a major monograph dedicated to Marco Zanuso, writes about ‘Lady’ armchair:

> It is a modest arrangement designed just after the war [...] It was the response to a very keen demand of the times: to rebuild the home for a freer and more dynamic lifestyle, always ready for a move, for a temporary stay, ready to start again with an undemanding, adaptable, dismountable and renewable furnishing. (Burkhardt 1994: 55)

‘Lady’ armchair reflects the cultural atmosphere of the postwar period in an exemplary way. In fact, unlike other nations where design had already produced many results in the 1930s and ’40s, Italian architects and designers became aware of the economic, social and political potentialities of design only after World War II. This was a period in which architects and engineers were directly involved in the process of reconstruction of Italy. Different personalities responded to the roll call, all animated by a common aim: to build a new, different and democratic society far removed from the fascist nightmare.

It was during these years that Italian bel design was born, a kind of design related to the European ‘good design’, but with its own specific features.

According to Vittorio Gregotti, bel design is characterized by its ingenious formal conceptions:

> Thanks to a brilliant aesthetic solution it manages to bridge the gap in a production where there is an imbalance of technological and organizational development which appears still, as a whole, to be maturing, by resorting to improvisation for the aspect of method. (Gregotti 1973: 10)

Italian industrial design, therefore, originated with a strong political and social vocation, and its development was closely related to the wider process of planning and reconstruction in the country, in a context of political uncertainty, but full of hope. Actually, the subsequent political choices of Italy allowed design to become an area where the idea of renewal, springing from all the cultural forces excluded from the majority government, could merge. As Andrea Branzi (2007) explains, in the post-war years, after April 18 1948 political elections, the intellectual class which had carried out the anti-Fascist Resistance and supported the communist ideas became part of the opposition party. For this reason, the intellectuals had few opportunities to participate concretely to the material and social reconstruction of Italy. Thus intellectuals and reformers tried to find another way of merging culture and society. New disciplines such as city planning, economy, sociology and design seemed to be the answer.
As Aldo Colonetti remarks, ‘design expresses not only the “shaping” of technical innovation, but also the change of customs and social habits’ (2008: 16; my translation).

A key moment in this process of Italian cultural renewal was, for example, the birth of RIMA, an Italian association organizing interior design exhibitions with the specific purpose of defining and promoting the idea of a functional and popular design. Starting from 1946, RIMA organized an exhibition of furniture prototypes for affordable housing with simple, modular and low cost elements. Here, they began to discuss new issues, such as flexibility, assembly, serial production, and the use of new materials. As Gregotti points out:

the exhibition was reduced to a kind of selection, often a symbolic one, of a furnishing composed, and sometimes even constructed, with the aid of the user. A simple furnishing, with no stylistic pretensions and with folding furniture central to the proposal, in line with that ‘pride of unpretentiousness’ spoken of by Persico in the war years. (1986: 233)

Between 1947 and 1957 the first consumer goods were produced, and objects such as TVs, cars, and radios started to spread. Consumption grew globally, and Italian living standards improved. Several farsighted businessmen, such as Cesare and Umberto Cassina, Adriano Olivetti, and Giulio Castelli, were able to combine the handicraft tradition with mechanization and industrial production, thanks to the frequent collaboration with talented designers. In these years, in fact, strong and fruitful partnerships were created, such as those between Marcello Nizzoli and Vittorio Necchi, Ettore Sottsass Jr. and Adriano Olivetti, Enzo Mari and Bruno Munari with Bruno Danesi.

Although marked by a common popular taste, unsophisticated and deliberately modest, the objects produced in this period soon became known all over the world. This was also the case with products like ‘Vespa’ (Corradino Ascanio’s motor scooter manufactured in 1945 by Piaggio), ‘Lambretta’ (designed by Cesare Pallavicino for Innocenti in 1947), and even the ‘Isetta’ microcar (by Ermenelgido Preti), a masterpiece of economy and space utilization, and undisputed forerunner of modern minicars, which sold from 1953 to 1956.

The style, the methods of production, and the ideological orientation underlying such production ensured Italian design a special attention in the world, so that the New York MOMA organized an exhibition entitled Italy, The New Domestic Landscape, curated by Emilio Ambasz in 1972. This was a very important exhibition for Italian design history, not only because it represented an opportunity for the international promotion of Italian industrial products, but also because the aim of the exhibition was to emphasize how design had developed in Italy not simply as a planning activity, but above all as an instrument of social critique. Italian design objects were shown as cultural tools, as instruments of protest and reform, and as a chance for democracy. This social and political vocation of Italian design was completely absent in American design.

1 Unless otherwise stated, all translations are my own.
Unfortunately, this exhibition is reckoned today ‘as a celebration, but at the same time as a sort of final act, of a historical phase’ (Bassi 2013: 90). Indeed, from that moment on, planning tended to pander to the market rather than to build new culture. The objects that once made the history of Italian design are still today photographed and portrayed by any home decor magazine. However, relocated in the most diverse living contexts, used in many advertisements and robbed of their founding myth, they have been deprived of their revolutionary power and transformed into signs of style, no longer democratic, but refined and elite.

These myths are surrounded by an extremely varied jumble of artifacts, from low cost to exclusive and luxurious ones, from functional to sustainable, all under the common label of design, which in this sense is nothing more than a portmanteau word. In his preface to the latest book by Chiara Alessi, entitled Dopo gli anni zero. Il nuovo design italiano (2014), Alessandro Mendini confronts with these controversial issues of contemporary design, and in an interview published in the journal Allegoria (issue 68) he discusses the work of young designers. He states:

I have defined these thirty-year-old designers as ‘enigmist designers’: professionals who work with obsessive precision, as if they had to solve a rebus. As it is known, a rebus is a formalist game, a kind of self-sufficient exercise which demands a solution of great intelligence, but, at the same time, without a real aim. By the definition ‘enigmist designer’ I mean exactly this: the new way of designing without a real aim. This is terrible. (Mendini 2014: 87)

On this basis, we should wonder whether it is right to limit Italian design to a mere formalist game. What has remained of that ethical-political project which once informed the country’s identity? And above all, despite the dominance of economic logics on cultural issues, is a politically-intended design still possible in Italy? Is it even still desirable?

The Olivetti case

Maybe this question could be affirmatively answered, on condition that the task of rethinking the design function, purpose, and mode of operation are not referred only to designers. Projects are now everywhere and they must be rethought from different critical perspectives, if one really wants to change reality.

Evidence of how a combination of forces and points of view is necessary in the world of industrial production comes, once again, from an extraordinary Italian experience of the postwar period. This is the case of Adriano Olivetti, a man who was immediately able to understand the revolutionary, social and civil power that design and technique could have, and who constantly strove to achieve a strong and significant relationship between design and democracy. As Matteo Vercelloni writes: ‘In the history of Italian industry, the Olivetti company appears as an almost unique case for the enlightened initiative of Adriano Olivetti (1901-1960)’ (2014: 113).

The Olivetti company was founded by Camillo Olivetti at the beginning of the twentieth century for the production of typewriters; during the 1930s, however, his son Adriano transformed the company, shifting its production from
mechanics to electronics with the construction of the first computers. More importantly, he turned his father’s company into a social engine, a cornerstone of technical, cultural, ethical, and political change. As Giuseppe Rao maintains:

Over the years Olivetti becomes the most valued and celebrated company in the world for its ability to combine technological leadership, ethical principles, rights and welfare of its workers and their families, development of activities never realized before by an enterprise in the field of culture, design, architecture, business communications, advertising, audio-visual, and publishing. All this contributes to create the Olivetti style that still remains a never equalled model in the international community, an expression of an enlightened vision that anticipates modernity. (Rao 2008)

Adriano Olivetti was one of the most significant personalities of Italian post-war history, certainly for his incredibly innovative industrial projects, but above all for the principle, consistently supported and applied by himself, according to which company profits were to be reinvested for the benefit of the community. In 1924 he took a degree in chemical engineering at the Polytechnic University of Turin and, after a study period in the United States, he entered his father’s factory as a worker. He became general manager of the Olivetti company only in 1932.²

His political idea was immediately clear: he opposed the fascist regime so actively as to participate with Carlo Rosselli, Ferruccio Parri, Sandro Pertini and others in the liberation of the Socialist politician Filippo Turati. It is said that Adriano Olivetti drove the car that carried Turati out of the country. At the end of the war, his political interests were applied within his own company. Here Olivetti invested his managerial skills, his desire to research and experiment without forgetting the affirmation of human rights and the participant democracy, inside and outside the factory.

In the 1950s, the Ivrea factory gathered a number of intellectuals from different backgrounds to work to pursue a higher synergy between the technical-scientific culture and the humanities. Thus the direct participation in the reconstruction of the country was accomplished in several areas, such as business practice, urban planning, and political and philosophical speculation.

In 1945 Adriano Olivetti published his book L’ordine politico delle comunità, in which he theorized the foundations of what became the Movimento Comunità, an Italian political organization founded in Turin in 1948. The aim of the movement was to gather the liberal and socialist wings into a new political entity; a sort of in-between area, between the political centre (monopolized by the Christian Democrats) and the left wing movement (dominated by the Italian Communist Party). The project was successful and Olivetti was elected as a member of Parliament in 1958.

The idea of community is crucial in Olivetti’s thought and work. For him, community was the only way to

² Further information available on the website of the Olivetti historical archive: http://www.storiaolivetti.it/percorso.asp?idPercorso=607
overcome the division between production and culture. Community had to include different personalities: shareholders, public authority, university, and workers’ representatives, in order to eliminate the economic, ideological, and political differences.

This idea of community was applied first of all to his own factory, creating a new and unique experience in an age when finding a balance between the two dominant ideologies of capitalism and communism seemed utterly impossible. On the contrary, Olivetti believed that an equilibrium between profit and social solidarity could be reached, so he made sure that the workers could experience better working conditions and organization than in other major Italian factories. He paid higher wages to his workers and encouraged the building of kindergartens and residences near the factory. He was persuaded that the welfare of workers would generate efficiency and improve production.

Also, life inside the factory was conceived in a different way by Adriano Olivetti: libraries were available to workers who could use them during breaks; workers could often listen to concerts or follow debates; and engineers and workmen worked together so that knowledge and skills could be easily shared. In the company there were always artists, writers, and designers, as Adriano Olivetti believed that the factory needed not only technicians, but also people able to enrich the work with their creativity and sensitivity. As he writes in the introduction to his book *Il cammino della comunità* [1959]:

> Everyone can ring  
> Fearlessly  
> Our bell.  
> It rings only

For a free world, materially more fascinating and spiritually higher.  
It rings only for the best  
Part of ourselves,  
It resonates whenever  
Rights play against violence,  
the weak against the powerful,  
intelligence against force,  
courage against resignation,  
poverty against selfishness,  
wisdom and knowledge  
against haste and improvisation,  
truth against error,  
love against indifference.  
- Adriano Olivetti

The results achieved from the point of view of production were very high, and with the passing of time the expression ‘Olivetti style’ has become a label to mark those objects whose shape is a direct result of their function and production process. Of course, the designers Marcello Nizzoli and Ettore Sottsass Jr. contributed to the development of this style.

Andrea Branzi explains the fundamental function that designers had in the Olivetti factory stressing how ‘in this model, design was not an industrial function committed to solve production problems, but a strategic activity, a civil culture, immersed in the change of society, and therefore able to provide the big industry with its identity through the project’ [1999: 127-128]. As a matter of fact, Adriano Olivetti reorganized the decision-making sectors of his industry, so that designers were no longer dependent on the marketing sector, but they had their own decisional autonomy. For this reason he established a new body called ‘Cultural relations, industrial design and advertising’ within his company.
A universally known example of the Olivetti production may be the 1968 ‘Valentine’ typewriter, a colourful, portable typewriter with rounded corners. As Sottsass’s idea was to create an easily portable typewriter; unlike previous typewriters, the ‘Valentine’ did not have an external enclosing case, but was itself a case. Moreover, the ‘Valentine’ was entirely made of plastic, and so it was extremely light; it was ‘a sort of forerunner of the laptop, for its philosophy of use and its freedom of movement’ (Vercelloni 2014: 199).

**Design and cultural studies**

Design is definitely a complex domain, so complex that it has been difficult to define even for the protagonists themselves. With reference to this, Salvatore Zingale tells a curious anecdote about Enzo Mari, one of the founders of Italian design:

In launching his book *La valigia senza manico* (2004), Enzo Mari states that after fifty years of activity and two thousand projects conceived or accomplished, he still does not know what design is; he only knows that the word ‘design’ is a portmanteau word, since it can contain ‘any opinion’. Then he tells that once, in Rio de Janeiro, the title of his book made the audience laugh because in Brazil the phrase ‘suitcase without a handle’ defines a confused person, one who talks a lot without actually saying anything. Design, the word ‘design’, runs the risk of being a suitcase without a handle: something we all think we know, but that no one can actually explain. [Zingale 2012: 28]

Today, more than ever, the word ‘design’ is being really abused, as Michele Cafarelli shows in *Didesign: ovvero niente* (2012). Particularly in Italy, the word ‘design’ has become an allusive and mysterious word, also because of the lack of a precise and univocal translation of the term, a sort of fashion label capable of giving an aura of modernity and sophistication to things that do not really have anything new or specifically related to design. We prefer to talk about food design instead of haute patisserie, fashion design instead of fashion, interior design instead of furnishing, even though it is not completely clear the difference between the roles of a fashion designer and a stylist, or an interior designer and an architect. In actual fact, some ambiguity of this word can be traced not only in the common use of the term ‘design’, but also in its etymology. The word *design* could derive from Latin *designare*, which might be translated in Italian as *delimitare* (delimit), *tracciare* (mark), *disegnare* (draw), *rappresentare* (represent), *indicare* (indicate, point), *regolare* (regulate), *disporre* (arrange, organize) [Zingale 2012: 28]. However, at the same time, we may trace an English origin of the word: in this case we have to remember that the term *design* can be used both as a noun and as a verb. As a noun, it should be translated as *intention*, *purpose*, *plan*, *intent*, but also as *plot* or *conspiracy*. As a verb (*to design*), instead, we may translate it as *to devise*, *pretend*, *plan*, *sketch*, *act in a strategic way*. This is the reason why, in the collection of essays entitled *Filosofia del design* (2003), Vilém Flusser remarks that the origin of the word *design* includes meanings like *shrewdness*, *deceit* and *trick*, *strategic plan*. As if designers were ‘schemers’ who refine and embellish forms and shapes making them more appealing in order to sell their products.
This is a level of meaning which should not be neglected as it actually exists in design. As a matter of fact, for contemporary philosopher Fulvio Carmagnola (2001), nowadays design is no more than a kind of supreme combination of economy and aesthetics. For this reason, the concepts of form and function, which were the basic distinguishing elements for design pioneers, appear today as threadbare concepts, unable to interpret such a complex and diverse reality. Indeed, many believe that the original motto formulated by the rationalist architect Louis Sullivan ‘Forms follow function’ should be changed in ‘design follows market’ or ‘design follows money’. Conceiving design as an aesthetic expedient blurring with whims and functional to fashion and market trends is a very common idea, which is not completely far from the truth. In many cases, design is also this.

Today design is certainly more connected to market logics than to anything else: we live in the age of ‘planned obsolescence’ when objects, as if they had a vital cycle, are no longer functional after a certain amount of time or they lose competitiveness on markets. Sometimes this happens because their technology becomes obsolescent, or more often because their design is obsolete or outdated according to the newest trends. This is the reason why, in Serge Latouche’s view (2013), it would be better to speak of ‘symbolic obsolescence’, namely the untimely debasement of an object because of advertising and new trends.

However, among the jumble of objects populating what Ortega y Gasset (1930) called the ‘society of the full’, we should draw a distinction between products, goods and artifacts. All of them are objects, so in each of the three cases it will be possible to find some degree of aesthetic care. Nevertheless, when we use the term ‘products’ we hint at their mechanisms of realization, by the term ‘goods’ we refer to the relationship between objects and market, while the term ‘artifact’ designates objects resulting from a detailed and intricate design process. Neither goods nor products are the results of design. Only artifacts are. Trying to better specify the sense of design, Alberto Bassi states that it cannot be considered as a pure creative act:

[Design] is not actually a formal solution or a ‘stroke of genius', but a work conducted in collaboration with many partners, addressed to specific assumptions of responsibility towards the society and the people who use objects and services, within an economic and cultural system, within a real world. [Bassi 2014: 8]

It is important to emphasize two main aspects of this statement: the necessary interconnection between design and the economic, social and cultural context, which are necessary preconditions for strategic planning, and, above all, the responsibility that design has in conceiving the world. In a fundamental essay entitled ‘A philosophy of design’ (1999), Vilém Flusser emphasized the role that design can have in conceiving the world depending on its own intentionality. As a consequence, it may happen that this intentionality is aimed at an ethical and social perspective, and a democratic vocation. In this case, the ultimate goal of design is that of guaranteeing the right products to all people and at the right price, thanks to a fruitful collaboration between design and
industry. Moreover, with regard to this, Giovanni Klaus Koening (1991) stated that design can be defined as such only when there are strong interactions between scientific discovery, technological application, good planning, and positive social effect. Also Gui Bonsiepe (2011) wondered about the relation between democracy and design, about the relation between critical humanism and operational humanism, since he faces the question of the role of technology and industrialization as a procedure for democratizing the consumption of goods and services.

As a matter of fact, design creates a dialogical dimension between subjects and objects. If this dialogic dimension induces a change in both subjects and objects through a process of complex semiosis, then we might wonder (again) why an object is produced, and what the meanings are that it conveys. Moreover, can this object really convey these meanings, or does it take on other values, unexpected and distorted, within the social practice? As Volli affirms:

In this century we have become aware that not only biosphere but also semiosphere is a place for possible economic exploitation: our mind, our language, our spirit, our culture, are important resources to foster the industrial process. The typical location of this exploitation of demand production is advertising; but also journalism, and cultural industry. Fashion, meant as a rule of change, acts on this semiosphere too. (Volli 2011: 219)

Design is not exempt from this matter. It is therefore necessary to orient the analysis of this complex phenomenon beyond a simple aesthetic dimension, adopting a critical perspective. Only a critically intended investigation [see Calefato 2008] might try to analyze design considering all the numerous aspects involved in the process. Only the recovery of a real critical dimension can actually re-found design as ‘speranza progettuale’, the ‘planning hope’ Maldonado spoke about (1970). As Bassi maintains:

Basically, to let the different ways of doing design find a way to express themselves, and be recognized in their meaning and value, it is important to support them with cultural tools and readings, as well as with specialist and professional readings, which allow them to be better and better understood by the vast audience of specialized personnel and users. (2013: 19)

Design is an evolving phenomenon and to understand, change or orient it, it is necessary to find the most proper analysis tools that are able to consider the economic, social and cultural transformations connected to it. Therefore, there is no need to try to give a definition of design, but, on the contrary, it is perhaps more important to emphasize its hybrid nature as a transdisciplinary discipline, in ‘necessary dialogue’ (Bassi 2013: 20) between the humanities and technology studies.

This hybrid nature of design makes clearer the connection that it can have with the theoretical perspective of cultural studies. As it is known, cultural studies seeks to study reality by combining different approaches and methods of observation, and, as Paul Bowman states, ‘this approach to cultural studies allows us – actually forces us – to reflect on culture, society, and politics in a much more serious way, in a more committed and at the same
time more rigorous and “messy” way’ (Bowman 2011: vii).

Looking at design in a different way is the first condition of granting it its social and political function today. As long as the aesthetic approach, the economic logic, and the social perspective do not communicate with each other, as happened in Italy during the 1950s, especially in Adriano Olivetti’s industry, design will never be able to play a political and democratic role in contemporary society. However, enacting this change is not just the task of designers: it is above all the task of design critics and scholars. In this sense, a look at the past, particularly at the post-war Italian design can certainly help us.

And while I am looking at a picture of Adriano Olivetti in his study, sitting in a ‘Lady’ armchair, I think I should definitely buy one of my own. Perhaps sitting down and even falling asleep in it, I will be able to glimpse a ‘free world, materially more fascinating and spiritually higher’, one that is surely still possible.

References


Branzi, A. [1999], Introduzione al design italiano, Milano: Baldini & Castoldi.

Branzi, A. [2007], Capire il design, Firenze: Giunti.


Virgilio, M. (2014), *Arredo casa e poi m'impicco*, Milano: Rizzoli.


This article was first published in *JOMEC Journal*

*JOMEC Journal* is an online, open-access and peer reviewed journal dedicated to publishing the highest quality innovative academic work in Journalism, Media and Cultural Studies. It is published by Cardiff University Press and run by an editorial collective based in the School of Journalism, Media and Cultural Studies at Cardiff University, committed both to open-access publication and to maintaining the highest standards of rigour and academic integrity. *JOMEC Journal* is peer reviewed with an international, multi-disciplinary Editorial Board and Advisory Panel. It welcomes work that is located in any one of these disciplines, as well as interdisciplinary work that approaches Journalism, Media and Cultural Studies as overlapping and interlocking fields. It is particularly interested in work that addresses the political and ethical dimensions, stakes, problematics and possibilities of Journalism, Media and Cultural Studies.

To submit a paper or to discuss publication, please contact:

Dr Paul Bowman: BowmanP@cf.ac.uk

www.cf.ac.uk/jomecjournal

Twitter: @JOMECJournal

ISSN: ISSN 2049-2340

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License. Based on a work at www.cf.ac.uk/jomecjournal.