

A RHETORIC OF HYGIENE: JUAN O'GORMAN'S FUNCTIONALISM AND THE FUTURES OF THE MEXICAN CITYSCAPE

This article analyses the concept of hygiene in Mexican functionalist architect Juan O'Gorman's written manifestos and building projects from the early 1930s. O'Gorman's technical notion of hygiene, in which architecture addresses social inequality, and describes a fluid system of exchange between bodies and the built spaces they inhabit, both overlaps and conflicts with a broader nationalist version of hygiene geared towards a eugenic and aesthetic vision of Mexico's future. In 1932 O'Gorman began collaboration with the Secretaría de Educación Pública on the design of a series of urban primary schools, in accordance with a hygienicist-eugenic logic to promote the health and well-being of the family and the future of the nation. This project, as well as O'Gorman's writing of the period, exemplifies the architect's insistence on the technical over the aesthetic, and the ways in which the rhetoric of hygiene serves to highlight conflicts between an overarching revolutionary nationalist project, and the immediate technical and social goals of building design. Analysis of O'Gorman's work reveals not only the origins of his eventual disillusion with the state-sponsored logic of building for a Mexican future, but also the crucial role of hygiene itself as symptomatic of a multiple and fractured post-revolutionary discourse.

Technical hygiene

Writing in the early 1930s, functionalist architect Juan O'Gorman effectively summarized the dilemma of urban planning, and specifically the construction of schools in a Mexico City faced with a severe housing and sanitation crisis: 'Regarding the problem of primary schools in Mexico, in which we know that 50% are hovels, unworldly places where a high percentage of children contract tuberculosis, how does the architect respond to this situation? With works of art, or with the engineering of buildings?' (O'Gorman 1983a: 123).¹ O'Gorman here follows his often repeated functionalist mandate of 'maximum efficiency for minimum effort' – in which 'effort' primarily designates cost – and at once suggests moral indignation through his rhetorical questions, at the thought that some might attempt to create works of art as a response to the needs of poor, sick children.²

O’Gorman’s words here reflect an important link that would also appear elsewhere in his writings, particularly of this period, between the question of hygiene, the built environment of the city, and the moral imperative that ostensibly ties the two together. The construction of a hygienic cityscape becomes a crucial means of fulfilling the promise of the Revolution, and hygiene itself operates as the paradigm of correct action for the good of the people; in O’Gorman’s case, hygiene defines successful architecture. In this article, I consider O’Gorman’s rhetoric of hygiene as central to his increasingly conflictive view of urbanization in Mexico, and his perception of the failures of the Revolution. As I will argue here, this rhetoric of hygiene goes to work on the problems of social inequality, corruption and mismanagement, but at the same time defines the processes of circulation and exchange between human bodies, the spaces they inhabit, and the political and economic forces through which they emerge.³ In other words, O’Gorman’s distinctive insistence upon the notion of hygiene expresses both the problems of inequality and asymmetry in urban spaces, and the proposed solutions to these problems. By articulating a rhetoric of hygiene in which the description of the problem becomes increasingly entangled with the action of solving it, O’Gorman’s work conveys a self-reflexive disillusion with the urban built environment as national project. Yet by the same token, the author at once participates in a post-revolutionary national aesthetics – inseparable from the state-sponsored project of hygiene and eugenics – typified by the elision of distance between present and future. As I will discuss further, in the early stages of his career O’Gorman was adamant in his verbal rejection of what he termed ‘aesthetics’. In this sense I read his participation in a national aesthetic project during the early 1930s as unwitting and paradoxical, and often running counter to the intentions he articulates.

As O’Gorman would write, in reference to the initiative of building cost-efficient, rationally planned schools, ‘if one were able to carry this out [*sacarlo avante*] it would mean, in my opinion, being a good Mexican and solving Mexican problems’ (O’Gorman 1983b: 112). In O’Gorman’s writing, hygiene thus functions as a primary site for the expression of the author’s partial and conflicted participation in a broader nationalist, eugenic aesthetics. The ambivalent location and expression of hygiene is significant here because it reveals the fraught complexity of O’Gorman’s relationship – as architect and writer – to the state-sponsored discourse in which he participated. But perhaps more importantly, the role of hygiene in these texts demonstrates the splintered and shifting quality of what might otherwise be read as a monolithic post-revolutionary nationalist project.⁴ Within this context, hygiene itself thus turns out to be a troubled and messy endeavour.

Part of the uncertainty of O’Gorman’s relationship to nationalist aesthetics, and to the role of hygiene in the revolutionary aesthetic project, lies in the architect’s emphasis on strict principles of the technical. In his book, *Mexican Modernity. The Avant-Garde and the Technological Revolution*, Rubén Gallo discusses how post-revolutionary Mexican artists and practitioners of diverse media, such as photography, typewriting, radio, cement, and stadiums, aimed to aestheticize the technical, creating new modes of artistic and cultural production through a celebratory use of these technologies. O’Gorman’s discourse of the 1930s, in contrast, reveals a near-obsessive concern with the technical as such, and with the frustrated goal of uncoupling ‘parasitic’ art from his own version of technical, hygienic fluidity. Emphasis on the technical, rather than on

aesthetic principles, shifts the contours of revolutionary politics, and the role of hygiene in this politics.

In this sense, the architect's technical hygiene differs from the concept of aesthetic, eugenic hygiene, as promoted by José Vasconcelos, for example, in his classic work, *La raza cósmica*, as well as in later texts such as *Ética* and *Estética*. In *La raza cósmica*, links between aesthetics and eugenics are most obvious in the writer's view that in the future, 'the very ugly will not procreate' (28), and that 'the mysterious eugenics of aesthetic taste will prevail' (28). Yet Vasconcelos develops this notion further in his *Ética*, a text in which he makes extensive references to Jean-Baptiste Lamarck, and to Lamarck's concept of *transformismo*, explained here as an overarching and linear theory of evolution encompassing all living beings. For Vasconcelos, the organized linearity of evolution combines with the continuous participation of individuals and species in universal and divine energy. According to this vision, the linear temporality of history and evolution is underpinned by a spiritual simultaneity linking together all life forms, with the ultimate goal of a transformation of energy from the physical to the immaterial (988). The culmination and final, yet continuous, purpose of this transformation is absorption into the spiritual plane, which Vasconcelos also defines throughout his work as the aesthetic. This process of spiritual ascendance also reverts back to the discussion of race and eugenics, when Vasconcelos mentions his earlier notion of the *raza cósmica*, within the text of *Ética*, as the 'consummation of an existence that exits matter as a hatchling escapes its shell' (Vasconcelos 1957b: 1015; my translation). For Vasconcelos, then, the necessary apex of national and universal history is racial and spiritual transformation, which continually collapses matter into spirit, and present into future.⁵

In contrast to the mode of aesthetics observed briefly here in Vasconcelos's work, O'Gorman's technical hygiene purports to solve national, technical problems, and resists the sweep of an aestheticized, racialized, teleological history. The architect's technical version of hygiene attempts to remain separate from aesthetic intentions that he regarded as superfluous, but cannot fully avoid participating in a nationalist agenda, within which the concepts of hygiene and eugenics – broadly articulated – operate as conduits towards a Mexican future.⁶ In particular the dilemma of uncertain transition between present and future, as mentioned above, surfaces in the architect's writings, as both a problem of hygiene and a link to nationalist aesthetics.

In a broader sense, the degree to which O'Gorman participated in the ideology of the Revolution, as espoused by Vasconcelos and the Mural movement, is debatable. As Edward Burian and Alberto Pérez-Gómez discuss, O'Gorman and Hannes Meyer worked at the Polytechnic School of Architecture, where they promoted the idea that the technical rationalism of functional architecture 'would be better suited to fulfill the minimum basic requirements of the Mexican population, furthering social equality' (Pérez-Gómez 1997: 27). As the same authors note here, Meyer's work in particular emphasized the creation of a 'new man' through an architecture that was necessarily compatible with revolutionary ideology.⁷ Although O'Gorman shared these communist views, closer attention to his written texts, as discussed below, reveals sticking points between the specificity of his technical vision of hygiene in architecture, and the possibility of an overarching and cohesive social agenda.

The more general idea of hygiene in this period corresponds to the particular context of Mexican public health policies in the 1930s, and becomes partially

interchangeable with eugenics, understood here as ‘a group of rules of social application which has as its goal the transformation of society towards an effective biological improvement’.⁸ In this sense, health policies designed to improve the well-being of the population in the present translated to an improvement of the nation and race in the future. In the first decades of the post-revolutionary period, the idea of continuity and the causal relationship between present and future would inflect the discursive fields of literature and aesthetics, as well as pedagogy, public health, and a range of other disciplines. Clear examples of Lamarckian influence emerge, for example, in Vasconcelos’s writing, as noted above, and – to mention one significant earlier example – in Manuel Gamio’s 1916 text, *Forjando patria*.⁹ I read the twin concepts of eugenics and hygiene here as part of a biopolitical mode of aesthetics defined by both the projection of an ideal into the nation’s future, and the points of conflict between the idealized projection and the (human, material) disruptions to its fluidity.¹⁰ Whether or not O’Gorman’s notion of the technical as hygienic operates as a mode of such disruption remains a key indeterminacy here, one that reveals the uncertain and problematic role of hygiene in the Revolution.

As Luis Carranza notes, studies of the trajectory of O’Gorman’s work have paid attention to the significant shift between his earlier emphasis on functionalism, from approximately 1929 to 1936, to his eventual abandonment of architecture and turn to realist painting (158). In Carranza’s fascinating reading of O’Gorman’s functionalism, partially based on Adorno’s essay, *Functionalism today*, the architect’s goal of serving the masses through functionalist building is shown to have been ultimately co-opted by bourgeois interests, for the advancement of capitalism and the maximization of profits (Carranza 2010: 161).¹¹ Though such co-optation was already present in the early 1930s period of functionalist architecture in Mexico, O’Gorman would only abandon functionalism on becoming increasingly aware of its pitfalls and contradictions. Although this shift and O’Gorman’s eventual rejection of functionalist principles are undeniable, here I am particularly interested in considering how the work and discourse of hygiene continually permeates O’Gorman’s approach to functionalism from the early 1930s to mid-century and beyond. The role of hygiene in this work, inextricably tied to the economics and contradictions of functionalism in the context of post-revolutionary urban Mexico, reveals O’Gorman’s conflicts and points of contact with state ideology, as well as the fluid temporality underpinning the nationalist politics and aesthetics of the period.

Hygiene, for O’Gorman, certainly refers to urgent questions of health and sanitation, as is most obviously the case in the early 1930s when he designed a series of primary schools for Mexico City’s working-class population, under the mandate of the *Secretaría de Educación Pública*. Yet here I also focus on O’Gorman’s use of hygiene as a rhetorical device, one that underpins his critique of urbanization in Mexico.¹² In O’Gorman’s increasingly negative views of architectural trends and his pessimism with respect to the future of the city and its people, hygiene, as concept and structure, circulates as part of the fluidity of relations between the state, its citizens, and the market. I emphasize the ideas of fluidity and circulation here because they illustrate a dilemma that repeatedly emerges in O’Gorman’s work, and one that I argue is crucial to the discourses of eugenics and aesthetics of the period. The issue might be summarized as a concern for how action undertaken in the present – by the state, or by an architect, for example – impacts the future of the urban population, and to what

degree this human population becomes inseparable from the circuits of state and market causes and effects. The problem is of course a familiar one, addressed by Foucault in his discussion of human capital, where he describes the worker as an 'active economic subject' (223) or '*homo œconomicus*' (225). In Foucault's reading, this subject, as entrepreneur, accumulates human capital, which may also be acquired for future generations through genetic selectivity in reproduction, and through education. And although he does not literally conflate genetics with hygiene, Foucault does state: 'Thus, all the problems of health care and public hygiene must, or at any rate, can be rethought as elements which may or may not improve human capital' (230). This analysis emphasizes the active role of the worker as subject, whose behaviour constitutes part of a process of investment and exchange, hence part of the fluid circulation of the market.¹³ In addition, by helping to determine his human capital, the worker participates in the determination of his own health, and that of the future population. In this sense, the inseparability of the *homo œconomicus*, as active agent of his own value, from the market as a whole, parallels the continuity between value in the present and in the future.

Eugenics and the rhetoric of functionalist architecture

Before further exploring O'Gorman's rhetorical engagement with hygiene and urban architecture, both in the early 1930s and towards the mid-century, I briefly outline the role of eugenics in Mexico in the first decades of the twentieth century, in order to show its impact on the politics of education, and its defining relationship to a nationalist aesthetics built on projections of the future race. Perhaps the clearest instance of O'Gorman's direct participation in the paradigm of eugenics would be in his design for the above-mentioned primary schools, beginning in 1932. In this year, Narciso Bassols became head of the Secretaría de Educación Pública (SEP), and appointed O'Gorman to lead the building department of the SEP. Bassols would remain in his position for only two years, thanks to a group of parents who protested against his promotion of co-education and 'sexual education' (Olsen 2008: 85), yet his commitment to mass, socialist education made an ongoing impact, most visibly through O'Gorman's functionalist school buildings, which sought to put the ideals of the Revolution into practice. As the authors of *Utopía-no utopia*, an illuminating study of O'Gorman's school building project, argue, this project was designed and constructed within the context of the state's hygienicist ideology, which meant a focus on the necessity of regulating, 'the streaming of light through the windows, the hidden circulation of bodily fluids in the pipes, the children's well-being' (my translation; Andrade Briseño et al. 2005, 15). During this period, the SEP was at the centre of discourse and activity related to the promotion of hygiene and eugenics, for the health and well-being of the family and the future of the nation (Stern 374–75); thus education and public health worked together as part of the same overarching eugenicist project. A series of state-sponsored organizations and activities carried out in the prior decade, such as the first Congreso Mexicano del Niño, of 1921; el Servicio Higiénico del Niño, of 1929; la Sociedad Mexicana de Puericultura, 1929; and la Sociedad Mexicana de Eugenesia, of 1931, attests to the central role played by eugenics and hygiene, as crucial to public

health policy, education, and the maintenance of social order (Stern 1999: 373–4; Suárez y López Guazo 2005: 99, 113–14; Stepan 1991: 81).¹⁴

The continuity between the notion of hygiene and that of eugenics during the first decades of the twentieth century in Mexico stemmed in large part from the ongoing impact of the ideas of Lamarck, and in particular his notion of the inheritance of acquired characteristics. As Antonio F. Alonso describes in his talk at the first Congreso Mexicano del Niño, Lamarck understood inheritance as determined by ‘modifications of beings through their adaptation to the environment’ (my translation; cited in Suárez y López Guazo 2005: 100). The Lamarckian concept that individuals could change during the course of their own lifetimes, and even change their ‘germ plasm’ (or genes) as an adaptive response to their environment would prove fundamental to the politics and policies of hygiene and eugenics in Mexico, because it meant that changes to the health of the current population would actually alter, and potentially improve, the national race of the future. If germ plasm could be altered by the presence of diseases or social problems such as tuberculosis, syphilis, and alcoholism, it followed that the prevention and eradication of such elements, through various public health and education campaigns, or even through new approaches to architecture, could be understood as part of a program of eugenics. In addition, this Lamarckian view of hygiene and eugenics would underpin and justify a proactive approach to determining the future of the nation and the race, as inseparable from the health of the present population (Stepan 1991: 100–1).

O’Gorman’s work in the design of primary schools which would be constructed under the mandate of the Secretaría de Educación Pública operates within this eugenicist paradigm; this emphasis on hygiene in building for the present population thus inevitably pointed towards the broader goal of massive social improvement for the future. In addition, a closer examination of O’Gorman’s use of language with respect to the question of hygiene and functionalist architecture reveals how hygiene itself also begins to determine the logic of the architect’s verbal expression. Conflicts arise as a result of this expression, in part because O’Gorman’s version of technical hygiene differs somewhat from hygiene as more broadly conceived in the national eugenic project. In his essay, *Arquitectura funcional*, cited above, O’Gorman presents the dilemma of those who would like to see architecture resolve both basic housing necessities at minimum cost, and ‘aesthetic necessities’ (O’Gorman 1983a: 122). Ultimately, O’Gorman will insist that the two are entirely incompatible, and he is quick to anticipate objections to his idea. With respect to the dilemma of the architect who must design schools for a population in which half the children currently attend ‘hovels’ [*escuelas-tugurios*] with a high incidence of tuberculosis (as cited above) O’Gorman writes:

Undeniably the primary responsibility of the architect faced with this situation is to not spend even a cent that is not indispensable and useful. In this case it is not about a problem of art or anything resembling it. It’s a technical problem, of strict functionalism, mechanical functionalism, an emergency, an economic problem, and finally, a problem of the engineering of buildings and not of expressions of human imagination. (O’Gorman 1983a: 123)

O'Gorman's strict, technical concept of functionalism here differs from the functionalist architecture — and what came to be known as International Style modernism¹⁵ — that became widespread in Europe and the United States, thanks in large part to the influence of Le Corbusier. The radical frugality and rigid definition of O'Gorman's functionalism are also what define it specifically as Mexican functionalism, appropriate to local context. As Alberto Pérez-Gómez states, in an interview with Edward Burian, 'what Mexican architects understand as functional architecture, is simply the idea that somehow all that matters is the resolution of the programmatic questions as economically and efficiently as possible so that form might "follow", excluding the architect's potential to indulge his imagination' (Pérez-Gómez 1997: 34).¹⁶ Here O'Gorman makes clear that the architect is operating within the confines of a limited budget, and that both the problem and the solution are defined in strictly economic terms. The value of the architectural intervention in the problem of public health stems in part from the specificity with which it may be measured; since every last cent must be accounted for, the value of each cent will therefore translate into a precise and necessary unit of use. Obedience to a functionalist ethics in this case also means obedience to a perfectly measured frugality. In other words, the overall value of functionalism stems from its close attention to value as such, and to its perfected conversion from cost to use value. As O'Gorman writes, 'It's a technical problem', and then continues the sentence with a crescendoing series of terms, each of which describes the 'problem' faced by the architect, while at once implying the type of solution that will be appropriate to it. Finally, as O'Gorman concludes here, the problem is adamantly not one of the 'expression of human imagination', as this term opposes all of those that precede it in the same sentence. The task of the functionalist architect as writer is to separate terms such as 'human imagination' and 'aesthetics' from references to technical problems. The strict efficiency of the solution to the problem appears to leave no margin for a blurring of categories, no space for the expression of art.¹⁷ The explanation here might be considered hygienic in the sense of the clarity and marked quality or 'cleanliness' of its divisions, and economic, of course, in its insistence on the value of each cent, indispensable to the project at hand. Yet by the same token, the description cuts short the possibility of fluidity between the problem and the expression of human imagination, by insisting on a radical separation between the two. The conflictive and cutting spirit of these lines will be echoed elsewhere in O'Gorman's writing, where more explicit contradictions between fluidity and separation emerge. And significantly, this passage does suggest an intimate link between hygiene and economics, not only because, in O'Gorman's broader argument, saving more money on the construction of schools means saving more children from tuberculosis, but also because the fastidious precision with which the architect separates the artistic from the technical mirrors his accounting for every last indispensable cent — and vice versa.

In O'Gorman's essay cited here, *Arquitectura funcional*, as is often the case elsewhere, the author adopts a somewhat aggressive tone, immediately anticipating the objections of his listeners, responding by defending his points, and critiquing the foolishness of their imagined responses. For example, he imagines a reader who might propose a combination of aesthetics and functionality in architecture, and states:

I will be told that one thesis does not exclude the other, and that the expressive, what we might call the production of art, is contained in the functional. This is inexact and implies a falsification, for one thesis does exclude the other. Architecture as art cannot be the outcome of mechanical function and of mechanical functional architecture. The engineering of buildings cannot be anything but the expression of mechanical function, and this, mechanical expression, is not artistic expression (123–4).

Here again, the author insists on a strict separation between the ‘functional’ and the ‘expressive’, yet the situation is complicated by the notion of expression, a term repeated several times in the passage. Initially, the expressive appears to denote artistic expression, yet further in the passage it turns out that the mechanical also offers its own form of expression, ‘the expression of mechanical function’ or ‘mechanical expression’. In this sense, the division between function and expression can be understood as one of cause and effect; function is the primary term, while expression is its conclusion, outcome, or outward manifestation. ‘The engineering of buildings cannot be anything but the expression of mechanical function’ equates engineering with expression, and underscores the idea that expression and function are, or should be, two sides of the same coin. The mandate that expression should express only function suggests that an engineering solution to a mechanical problem must remain mechanical, and not deviate into the realm of art. Likewise, expression should be true to the function it expresses, so that what is in fact purely an aesthetic design choice should not masquerade as an engineering solution. O’Gorman’s increasing levels of apparent anger and frustration in attempting to separate art from function, while at once maintaining continuity between the primary function of a given object, and its outward appearance, or ‘expression’, imply a necessary duality between form and function that is always in danger of deviating from its ostensibly practical, symmetrical structure. The fact that the type of building O’Gorman privileges here comes into being as an ‘*expression* of mechanical function’ (my emphasis) highlights the idea that even the material existence of the building might already jeopardize its obedience to the principle of pure, technical functionality. Moreover, perhaps it is obvious that the more closely a given building or construction displays coherence between form (expression) and function, the more likely it is that viewers or critics might interpret the aesthetics of this building (as work of art) as entangled in its functionality. This of course is precisely the confusion O’Gorman is hoping to avoid, when he insists that one must choose between aesthetics and function, that it is impossible to have both: ‘Either you sacrifice maximum efficiency for minimum cost or you sacrifice architecture as aesthetic expression. You choose’ (124).

The technical hygiene of the vision proposed by O’Gorman here emerges in the supposedly fluid reflexivity between function and expression, which should not allow for the intervention of external (in this case, artistic) elements. But the flow is at the same time broken by the suggestion that such elements may indeed be present. As Edward Burian (1997) has noted, O’Gorman’s built architecture of this period presents metaphors of human biology and hygiene, at times with a similar use of fluidity. A classic example occurs in the studio-houses of Diego Rivera and Frida Kahlo, constructed in 1931. In these houses’ interiors and exteriors, as Burian writes:

'All pipes were visible, and electrical power runs and connections were used as expressive compositional elements reminiscent of veins and arteries' (1997: 139). The cables, pipes, water tank, and the structure of reinforced concrete were explicitly revealed, thus inverting the expected relationship between the interior and the surface of a building, or an organism, in accordance with Burian's notion of a 'biological metaphor' (147). The relationship between interior and exterior in this case becomes part of a singular continuity, since all aspects of the building make themselves visible, and announce their own structural, material necessity. Any element that was not materially necessary to the building would be deemed superfluous, in accordance with O'Gorman's strict interpretation of functionalism during this period. In obeying material necessity, the buildings appear to have opened their entrails to the world, renouncing the need to hide or disguise the practical, functional elements of the construction. Taken to the extreme, this architectural theory eliminates the notion of an interior, and of the division between function and expression that O'Gorman describes in the above-cited passage. Hygiene, in these examples, does not refer only to questions of health or cleanliness in a literal sense, but also to the systematization of a grouping of elements, each one efficient in itself, and together producing a harmonious efficiency. When a system is perfected, and when its construction and function mutually reflect one another, it articulates an absolute control, without the possibility of contamination by elements beyond its own finality.

These instances of rhetorical and built architectural hygiene in O'Gorman's work demonstrate the importance of economic logic as inseparable from the fluidity linking form (or 'expression') to function, and at the same time the conflictive aspect of this supposed fluidity. The conflict is epitomized in the insistence that true functionalism is completely incompatible with attention to human or aesthetic expression, combined with the idea that in this architecture, function and expression should be faithful, unadulterated reflections of one another. The notion of expression in O'Gorman's work, which sometimes refers to artistic expression, or elsewhere just to the physical form manifesting a given concept, thus occupies an uncertain space; it is crucial to the fluid logic of functionalist architecture, yet at the same time is constantly under threat of erasure from the functionalist equation as superfluous.

In a classic 1933 lecture, O'Gorman further underscores the economic basis for his argument in favour of functionalism, or what he calls in this case, 'technical architecture'. He describes the example of two men standing before a waterfall, one an engineer and the other an architect. The engineer, not surprisingly, views the waterfall in terms of the energy that could be harnessed from it for human benefit, 'fulfilling general human necessity' (O'Gorman 1983b: 114). The architect, in contrast, imagines decorations that might be added to the waterfall, for the enjoyment of a few select people. O'Gorman links these two cases directly to economics, as he states: 'Today's economic conditions produce these two phenomena in architecture. The first consists of capital's need to produce interest and to reinvest it, and therefore to use technical means in order to achieve this; and the second is the investment of surplus interest in what might be called enjoyment' (114–5). In this passage, capital is useful for the good of the people when it is employed for investment through technical means. Capital is at its best when it functions smoothly, reinvesting itself and maximizing its own production; as O'Gorman states: 'the technical (...)

makes capital productive' (115). Problems emerge when instead profits are spent on enjoyment. As O'Gorman concludes: 'Art then becomes a parasite that lives off the technical and sucks the sap that should have strengthened and increased human productive capacity' (115). One might imagine in this case that O'Gorman is referring to the contrast between money that is spent frivolously by elites for their own exclusive benefit, and money that is instead used to respond to the needs of the majority, as in the earlier example of the construction of schools for working-class children, in which each and every cent must be used efficiently. Yet here the architect refers only to the reinvestment of capital with the more abstract goal of increasing human productive capacity. Capitalism, as exemplary of the technical in this case, appears to operate for its own benefit, responding to its own needs of investment and reinvestment, and creating an effective, hygienic circuit of production linking present to future. This text, though published before O'Gorman's disillusion with functionalist architecture, already makes explicit the way in which functionalism paradoxically dovetails with the goals of capitalism, so that the needs of capital correspond to the needs of the masses, in opposition to the whimsical desires of the elite. O'Gorman's example of the waterfall thus appears to sustain both classic Marxist discourse in which capital is an anthropomorphic subject with its own particular needs, and a celebration of the technical and of capital, as mutually beneficial to one another, and to the masses. 'Human productive capacity' defines the centre of this troubled hygienic logic.

Through use of the metaphor of art as a 'parasite', sucking and weakening the circuit of human productive capacity, O'Gorman returns to his emphasis on biology and hygiene, as seen in Burian's discussion of the houses of Diego Rivera and Frida Kahlo. Hygienic capitalism, within this rhetoric, suggests the smooth functioning of an organism, in this case a tree, whose sap both nourishes the body as a whole, and is produced by it – in conjunction with necessary elements of the tree's ecosystem, such as water and sunlight. The self-sufficient organism of capitalism is contaminated by parasitic art, which interferes in its feedback loop, both corrupting and diminishing the supply of nutrients, or funds. For O'Gorman, the basis of this capitalist circuit of production and investment is the human population, expressed here in the abstract as human productive capacity, yet the nature of the connection between the population and the capitalist model is not explained in detail. Instead, O'Gorman recurs to another metaphor, a description of a continuum of household objects running from the absolutely useful to the completely useless. Useful objects include stoves, bathtubs and sewing machines, while useless ones are, for example, decorative vases and embroidery, with an in-between category containing items such as chairs and tables, depending on how elaborate they are. These categories suggest, for O'Gorman, the division of human activity into two basic manifestations: the technical, which serves everyone and makes capital productive, and the artistic or academic, which in contrast serves only a minority, and uses the surplus of interest produced by the technical, as was also the case in the example of the architect's vision of the waterfall. The parasitic appearance of artistic expression that is not the logical outcome of technical function contaminates the process through which objects are produced and circulated, leading to an asymmetry and a dead-end to the fluidity of the feedback loop of capitalist investment and production.

'A Mexican problem'

Critical descriptions of such corruption are common in O'Gorman's writings on functionalist architecture, and often occur as the culmination or end-point of the architect's argument, as if to highlight the apex of his frustration with the contemporary state of architecture, with public misinterpretations of functionalism, or with a corrupt economics that benefits only the elite. In this sense, the dead-end to the idealized fluidity between function and expression or to the efficient circulation of technique for the benefit of humanity frequently corresponds to a rhetorical dead-end as well, a pessimistic vision that runs itself into the ground. In some cases, O'Gorman relates his visions of problems and solutions more specifically to the Mexican context, thus showing that his frustrations, as well as his hopeful ideas for the future population, are bound to the particularity of nationalism. This is the case in the following passage, where he describes the needs facing Mexico City schools, while at once criticizing those who would call Mexican functionalist architecture 'Swedish' or 'Nordic':

Hygiene of body and mind. Big windows that let in lots of light and lots of bathrooms with showers, and this they call Swedish or Nordic architecture, without analysing the problems and without knowledge of the context (. . .) If we analyse the problem superficially we will see that calling this Swedish, Nordic or German only comes from looking at the form but not the content. They saw the façades but not the problem, a Mexican problem, perfectly Mexican, and of Mexico City. (O'Gorman 1983b: 111)

National specificity in this impassioned discussion is directly tied to O'Gorman's constant refrain of the relationship between form and content, external appearance and internal essence, expression and function. He describes the opposition in terms of form and content (*forma* and *fondo*), and also façades and problem, locating Mexicanness as the interior, base, or root of the problem, which might appear to be foreign if viewed superficially from the outside. Knowledge of the consistency between these elements and insistence upon their logical continuity becomes a gesture of patriotism that is at once inseparable from the practicality of solving present social problems through projection into a collective national future. And as noted above, a frugal approach to such problem-solving means, for O'Gorman, 'being a good Mexican and solving Mexican problems' (112). Mexicanness here is associated with the specific requirements of the situation, the 'Mexican problem', which in turn defines functionalism in this case, since the architecture, to be successful, must be as cost-efficient and as commensurate as possible with the 'problem' or needs. 'A Mexican solution to a Mexican problem' describes O'Gorman's architecture and, in doing so, unites the problem with the solution so that the terms start to become indistinguishable from one another. The joining together of the problem with the solution becomes part of O'Gorman's imperative, since understanding the fluidity between problem and solution will allow the viewer to avoid the mistake of looking only superficially at the façade and not seeing the problem. And as the problem becomes part of the continuity of the solution, the present situation is drawn towards the future, of course an emphatically Mexican future. By the same token misreading the building design as

'Swedish, Nordic, or German' means misunderstanding the continuity between function and expression, interior and surface, present and future, and hence misinterpreting the role of the national in architecture. This incorrect view of the architecture in question would imagine an asymmetry between local context and built structure, Mexican particularity and foreign, corrupting influence. The misreading works as another case of a rhetorical dead-end, a critical interruption to the fluidity of the relationship between function and expression (or *fondo* and *forma*), as also occurs elsewhere when O'Gorman gives his own examples of aesthetics severed from or superfluous to the technical.¹⁸

This passage occurs in the context of O'Gorman's argument in favour of a more 'universal' Mexico: 'Architecture must internationalize itself, for the simple reason that man is becoming every day more international' (112). Perhaps ironically, this statement appears as the consequence of the imperative to be 'good Mexicans, and solve Mexican problems'. Patriotism, like the relationship between function and expression, seems to operate in fluid terms, articulated at the crossover point between the internal and the external. The fluidity of these elements is hygienic, in that it offers an alternative to the dead-end view of the isolated, decontextualized and stagnant façade, and instead promotes constant temporal and spatial movement and exchange, in other words between present and future, and between Mexico and the world. The goal here is the improvement of society, yet, as I have suggested, this future improvement tends to blend with the present problems to be solved.

As critics have noted, O'Gorman's views on architecture would shift quite dramatically in the late 1930s, with his move towards realist painting. His pessimism, particularly with respect to the Mexican cityscape and society, would become increasingly pronounced in later decades, as is made amply evident in many of his paintings and murals, apocalyptic visions in which heavy industry takes on organic, monstrous forms, in bizarre combinations of mechanical and animal representation.¹⁹ The disturbing reciprocity and blurring of lines between the organic and the inorganic, which eventually becomes the hallmark of O'Gorman's work as a painter, would also seem to reflect the relationship between human bodies and the cities they inhabit, and the enigma of whether the built environment exists because of the human population it ostensibly serves, or whether the human population exists to serve the increasingly monstrous built environment.

The authors of *Utopía-no utopía* emphasize that O'Gorman's explicit disenchantment with state ideology, evident in the later paintings, was in fact already present in his earlier architectural work, including his design of the primary schools at the beginning of the 1930s. They note, for example, that the school as hygienic space controlled by a hierarchy of authorities resembles a laboratory: 'Germs stay outside, with the drunkards and imbeciles. The school is a miniature scientific fortress. In this sense, it resembles the violent anti-utopias that O'Gorman painted years later: closed, self-sufficient, artificial' (my translation; 25).²⁰ In addition, they point to O'Gorman's pessimism towards 'messianism in architecture' (12) in part because of critical differences between the Mexican architect's thinking and the ideas of Le Corbusier. As they explain, while Le Corbusier truly believed in the power of architecture to shape society and resolve social conflict through the building of massive, perfected and organized cities, O'Gorman focused more on solving specific material problems and,

in doing so, repeatedly emphasized the priority of the material over the sentimental or emotional (9–11).

It is interesting to note here too that O'Gorman's eventual distance from Le Corbusier's well-known ideological enthusiasm for the aesthetic beauty of technology parallels the partial opposition, noted above, between O'Gorman's technical hygiene and Vasconcelos's nationalist aesthetics. In both cases, the Mexican architect appears to resist an ideology that threatens to sweep him into its aestheticizing path. Yet O'Gorman's stubborn and resistant privileging of the material, taken to an extreme, would mean negating the existence of emotions and sentiments, which are referred to in the text of *Utopía-no Utopía* as the metaphysical or 'noumenical' (7). Such a negation, as the authors show in their analysis of a 1942 drawing by O'Gorman, leads to an impossible, contradictory and hyper-realized exteriority, folded back upon itself, neither outside nor inside (7). The contradictory nature of this extreme materiality suggests a kind of functionalism at the limit. The same dilemma of purified functionalism emerges in O'Gorman's language when he discusses his approaches to the problems of architecture in relation to hygiene, as I have discussed in the examples above. Absolute focus on function over aesthetics, or on matter over form, leads to an impasse, a frustrated dead-end to the feedback loop that ostensibly would allow a given structure to exist as an operational circuit of mechanics and expression.

For the authors of *Utopía-no utopía*, O'Gorman's pessimism and differences with respect to the dominant ideology of hygiene and social progress also emerge at this early stage in the conflict between two modes of thinking. On one hand, state-sponsored hygienic discourse used empirical studies of children's bodies and health, and a complex bureaucracy to implement and regulate projected outcomes. On the other, materialist functionalism continued to depend on the rules of geometry, and on the replication of modular units, to produce a self-sufficient, self-contained built system (15). Perhaps the difference, according to this reading, between the overarching vision of the SEP regarding hygiene, and O'Gorman's view of functionalist architecture, could be summarized as the conflict between the State's outwardly projected, forward-thinking system of control, and O'Gorman's inward, self-reflexive system of self-containment. Yet the relationship here is nuanced, as the authors of the above-mentioned text also suggest, since at times the two systems also intersect and work together. In both models the concepts of hygiene and fluidity emerge repeatedly; these are the elements that both link O'Gorman's vision to that of the State, and at times produce frustration and conflict at points of intersection between the two.

Along similar lines, Adriana Zavala reads O'Gorman's classic 1949 painting *Landscape of Mexico City* as a critique of the state, and not as a celebration of urban modernity, which has been the more traditional reading of this work. For example, she describes the indigenous labourer featured in the painting, standing next to a masonry wall, trowel in hand, with a blueprint for a modern, steel frame structure in the other hand. Clearly the brick and rubble masonry technology evoked by the wall and trowel would be obsolete and unequal to the task of creating the structure featured on the blueprint (Zavala 2007: 495–6). This and other details in the painting, such as the fact that the sixteenth-century map of México-Tenochtitlán, held by two hands in the painting's foreground, is actually upside-down with respect to the cityscape depicted beyond it (504), suggest the artist's pessimistic emphasis on an incommensurability between the rapidly modernizing city in the context of the so-called Mexican miracle,

and Mexico's historically grounded, material reality.²¹ Although O'Gorman painted this work well after the period in which his functionalist schools were designed and built, the example fits in a larger trajectory of the architect's complex and conflicting relationship to the state-sponsored vision in which he participated.

These critical voices suggest that O'Gorman's pessimism regarding state ideologies, including the projects of hygiene and eugenics, emerges far before his explicitly dystopic paintings of Mexican industrial cityscapes. Similarly, as I have argued here in my analysis of the architect's writing from the early 1930s, O'Gorman's conflictive spirit is clearly present and in fact tends to reveal itself precisely through a rhetoric of technical hygiene, though paradoxically it is also the discourse of hygiene that most closely allies O'Gorman with the state-sponsored projects, such as the building of schools, in which he played a key role. The importance of this particular location of conflict in O'Gorman's work, and by extension in the politics of architecture and aesthetics in post-revolutionary Mexico, lies not only in the fact that it reveals O'Gorman's relatively early disenchantment with the state, but also in the possibility it opens for a reading of hygiene as rhetoric both within and beyond officially sanctioned state discourse, and indeed for a reconsideration of the boundaries of that discourse.

Projecting the future

In order to consider further the development of O'Gorman's conflictive relationship with state-sponsored ideologies of the built environment, as well as the linked roles of hygiene and temporality in the expression of the conflict, I now turn to the architect's 1949 essay, *Urbanismo estático y urbanismo dinámico*. It is worth noting that the publication date of this text corresponds with O'Gorman's painting, *Landscape of Mexico City*, discussed above. Both works reflect the author's cynicism regarding Mexico's rapid growth via the influx of foreign investment capital, as well as a highly sceptical view of a post-revolutionary nationalism that unquestioningly celebrated private enterprise.²² In this text, O'Gorman begins by setting up the problem of large cities in terms of their size and population growth in relation to their structure and organization. He writes: 'Without the automobile, without the elevator, and without structures of isolated supports one cannot easily comprehend the existence of a city of more than half a million inhabitants' (141). The symbiosis between human life and built infrastructure is made apparent here, since, as this citation suggests, the large and concentrated population could not exist without material supports such as cars, elevators and modern buildings, nor would the industrial growth behind such material production be sustainable without the ongoing promise of a dense and growing population. Further in the same essay, O'Gorman links the issue of urban population to that of hygiene, citing a US study which showed that cities with populations between thirty and fifty thousand inhabitants had more cost-effective public hygiene programmes than those with populations greater than one million inhabitants. As he describes, the cost per-inhabitant of the same '*servicios de salubridad*' was 50 cents in the smaller cities, versus \$7.50 in the larger ones.²³ Here O'Gorman seems to be suggesting that these somewhat smaller cities present a more appropriate model to follow than the massive and ever-growing cities imagined by Le Corbusier in his

A Contemporary City of Two Million Inhabitants. In fact, in the preceding paragraph, O'Gorman refers to Le Corbusier's model as 'a fascist expression of thought on the matter at hand, since in maintaining the regime of private property, and based on existing capitalist conditions, it purports to impose a socialized mode on the occupied land and on the buildings of the city' (146). The contradictory quality of this vision of the contemporary city, according to O'Gorman, is reflected in the contrast between the relative order of an individual building and the chaos of the grouping of multiple buildings, or between the order of an individual factory and the chaos of overall market production.

The problem O'Gorman perceives in Le Corbusier's vision here is not only the absolute adherence to private property and capitalism above all, but in addition the dependence of the capitalist city on the collectivization of urban land, services and organization, as well as on a large urban population. The logic of the relationship is ultimately revealed to be parasitic, rather than merely symbiotic, as at first seemed to be the case, because capitalism and industrial growth require densely concentrated populations, even when maintaining the health of such populations implies further escalating costs. As he states: 'the high concentration of the population is the primary resource in the solution to the problem' (145). In this case, the 'problem' refers to the growth of industry, the concentration of capital and hence the need for larger numbers of workers in one place.

The question of hygiene emerges in this text in several senses, perhaps the most obvious being the literal mention of the relative cost of public hygiene services in cities of different sizes. As in earlier texts, here too O'Gorman makes hygiene inseparable from economics; the most cost-effective system of hygiene is thus the most hygienic, and turns out to be doubly hygienic, since saving money keeps the system's resources flowing, to be reabsorbed as part of a smoothly functioning and efficient urban hygiene machine. In addition, hygiene defines the goals of the urban planners discussed in O'Gorman's texts. Le Corbusier's four fundamental principles of urbanism, as O'Gorman writes, are: 'Decongest the city centre, increase population density in urban space, increase modes of circulation, increase planted areas with trees and gardens' (142). These goals suggest a metaphorical reading of hygiene as an approach to the overarching urban system, and to the fluidity of interactions between population and physical space. Here, however, the hygiene of the system becomes problematic in O'Gorman's view, since it allows for private capital to feed off the collectivity of the overall organization of the city.

Hygiene is also a part of the approach to temporality and the future in O'Gorman's critical reading of Le Corbusier's project. O'Gorman repeats throughout his essay that Le Corbusier's project is designed with the assumption that the population will grow in the future. He writes: 'even the fact of having as a starting point the quantity of two million inhabitants as the smallest term of what is called the big city clearly indicates that its author assumes the inalterability of the conditions that have led to growth in big cities' (146). Part of the fluidity of Le Corbusier's urban plan, as described here, stems from the fact that it is proposed explicitly for the present and the future through the concept of population growth, thus combining the assumption that things will continue as they are with the idea of continual change. The city is therefore conceived as an organism ('the complex organism of the city'; 145), for which the rules of physiology are predetermined and constant, but which may assert its relative independence

through continual and possibly chaotic growth. The projection of growth over time defines this combination of structure and uncertainty. Only through the passage of time and the constantly projected idea of the future can the city fulfil the architect's vision of a totalizing, self-sustaining system. Within this structure, the future, defined through the free proliferation of capitalism and of the human population required to sustain it, depends upon the present, defined through the organization and collectivization of the city as a whole. The city works (though in a fascist manner, as O'Gorman sees it) because of the fluidity between the relatively fixed order of planned space, and the more chaotic, partially unpredictable growth and change that are characteristic of its projected future. In this sense, the flow of resources, human beings, and objects operates according to a temporal structure in which future and present are continually drawn together into a singular time.

This structured relationship between present and future nevertheless reveals further conflicts, as O'Gorman describes, regarding the relative permanence of buildings. As he notes, 'For efficiency in urban planning it is essential that, based on a program of collective necessities in the present, one considers time as one of the most important factors, for the inevitable modifications that the future will bring' (148). The problem the architect perceives here is that buildings are created with the idea of permanence for eternity, as if they were the pyramids of Egypt (148). For O'Gorman, such planning reflects an infantile attitude, a religious notion of eternity, and an unwillingness to confront reality. He even declares that 'all urbanists' have overlooked the issue of temporality in their designs, even those focused on functional solutions (148). The temporal fluidity between structured present and proliferating future is thus not only part of a fascist expression, according to O'Gorman, but in addition immediately becomes contradictory with respect to the passage of time, with the reference to an infantile mind-set suggestive of a failure to move adequately and practically forward into the future.

The 'solution' O'Gorman proposes is the creation of buildings that could be disassembled and moved as necessary, though, as he notes, this idea would conflict with the concept of the house as expression of its inhabitants' ideas and personal desires (149). In the end, the clear establishment of this contradiction is the only conclusion O'Gorman pretends to offer. Although inevitably O'Gorman does refer to the future in his speculation here, his focus is on an intensified, tangible notion of the present, grounded in 'reality of material phenomena' in opposition to the grand gestures of architectural eternity that he perceives in the buildings and monuments around him. The future, in this reading of practical disassembled and reassembled building modules, would be composed of hypothetical slices of present time, marked by a cynical and technocratic distance from the confidently fluid temporality of capitalist urban planning which strides boldly into eternity.

In his precise focus on the dilemma of time and continuity in the hygiene of the cityscape, O'Gorman reveals metaphorical cracks in the edifice of a state-sponsored rhetoric of progress that would seamlessly tie present to future. This nationalist rhetoric of progress, as I have suggested here, operates as a version of hygiene that is in turn irrevocably linked to the notion of eugenics according to the politics of the period. In this context, hygiene works towards the improvement of society, through a fluidity that allows human bodies, material objects and other resources to circulate within a system of continuous exchange. For O'Gorman, the fluidity of this form of hygiene as

progress eventually becomes problematic when capitalist profits of the modern city feed off the collective social body of the worker population, as seen in the essay *Urbanismo estático y urbanismo dinámico*, as well as in many of the author's later paintings. Elsewhere, and significantly even in his earlier writings, O'Gorman's reading of the ostensibly fluid relationship between 'function' and 'expression' reaches a frustrated impasse, as in the essay *Arquitectura funcional* discussed above. Here as well, the hygiene proclaimed in modern building design turns out to ring hollow – despite its technical precision – as its contradictory logic grinds to a halt.

Despite O'Gorman's highly critical lens on the roles of urban planning and architecture in the development of Mexican cityscapes and society, these texts do not suggest the abandonment of hygiene as a mode of logic and aesthetics. Instead, they reveal the ways in which hygiene itself marks sites of conflict. Rather than disappearing, technical hygiene as rhetoric recurs in O'Gorman's work, insisting upon itself as both 'Mexican problem' and 'Mexican solution'. Ultimately, the effect of O'Gorman's sceptical and partial participation in an overarching discourse of building the city for the benefit of a future Mexico is an explosion of the notion of hygiene in the context of this discourse. In this sense, O'Gorman's voice takes hygiene beyond the showcasing of national programs of streamlined health and progress, and reveals its dilemmas in the material details of building design and city planning. Although O'Gorman remained in practice until 1936 as a functionalist architect, whose projects generally dovetailed with the government program of building for a more equitable Mexican future, his writings of the 1930s and his abandonment of architecture in 1936 ultimately speak to a more complex and critical relationship with nationalist revolutionary discourse.

The problems and conflicts O'Gorman brings to light in his analyses testify to the asymmetrical quality of hygiene as rhetoric, and demonstrate that the fluidity of resources in this reading of hygiene also defines the fluid nature of the architect's discourse with respect to the matrix of state and private capital. Just as O'Gorman's functionalist designs of the 1930s began to invert and blur expected oppositions between interior and exterior, his critical approach to practical dilemmas of urban planning and building shows that the post-revolutionary nationalist discourse of hygiene and eugenics is prone to unexpected inversion and elasticity. The troubled rhetorical spaces of hygiene thus continually reopen themselves, revealing landscapes of bodies and buildings as irreducible to the programmatic eugenicist logic of biological and social improvement.

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Notes

- 1 All translations of O'Gorman are mine.
- 2 Alberto Pani's 1916 text provides empirical data on categories such as illness rates, mortality, education and sanitation from the immediate pre-revolutionary period.

- For a contemporary analysis of data for the mid-1930s, see Olsen 2008, especially 182–98.
- 3 For a distinct reading of the notion of a rhetoric of hygiene, in the Colombian context, see Diana Obregón 2003.
 - 4 This argument borrows in part from the critical project of Ignacio Sánchez Prado's *Naciones Intelectuales*, in which the author proposes a 'reappropriation of literature for the imagination of alternative strategies for understanding the nation, and a revindication of the role of literature as space of functional intellectual articulation even within hegemonic systems' (my translation; 10).
 - 5 Vasconcelos's brief discussion of 'modern architecture' within the text of *Estética* offers an additional point of contrast to O'Gorman's views. His overall impression of this architecture is primarily negative for its lack of aesthetic appeal and adornment. He notes for example the 'stinginess' (*mezquindad*) of the staircases, and blames the 'greedy hearts of the industrial era' (1611, my translation).
 - 6 Alberto Pérez-Gómez and Edward Burian's discussion of the differences and links between technical education and the humanities, as well as between the writing of José Vasconcelos and the discourse of technical rationalism (24–37), is useful here.
 - 7 Antonio Toca Fernández provides additional discussion of links and parallels between the work of O'Gorman and that of Meyer.
 - 8 My translation. The citation originates from a lecture by Dr. Adrián Correa, as summarized by Dr. Alfredo M. Saavedra, and cited in Suárez y López Guazo 2005: 146. This concept of hygiene as linked to eugenics during the first decades of twentieth-century Mexico has been extensively studied by Nancy Leys Stepan in her classic work, *The Hour of Eugenics*, as well as by Alexandra Stern. Hygiene here differs somewhat from its nineteenth-century variants, as studied by Latinamericanist scholars such as Michael Aronna and Gabriella Nouzeilles, who have emphasized discourses of the elimination of pathology and difference. In twentieth-century Mexico too, hygiene works as part of a biopolitics grounded in representations of the national, with the difference that it is marked by the international rise of eugenics, and by the revolutionary concept of the popular.
 - 9 Also see Stepan 1991: 67–76 for discussion of Lamarck's influence in early twentieth-century French medical circles, and subsequent impact in Mexico. An excellent resource on nineteenth- and early twentieth-century European concepts of hygiene, race and eugenics and their impact in Mexico is Beatriz Urías Horcasitas's 2005 article.
 - 10 Nancy Leys Stepan has demonstrated the confluence between hygiene and eugenics in Mexico, Brazil and Argentina in this period. As she writes, in reference to Latin American eugenics of the period, 'Various names for this eugenics suggest themselves to the historian: "preventive eugenics", "social eugenics", "eugenics and social medicine", "eugenic hygiene". But whatever the name, it meant a eugenics that linked a sanitary environment to racial health' (85).
 - 11 In his text Adorno discusses the impasse of anti-ornamental functionalism, noting for example: 'The difference between the necessary and the superfluous is inherent in a work, and is not defined by the work's relationship – or the lack of it- to something outside itself' (7). His analysis suggests a conflict similar to that encountered by O'Gorman in his discussion of technical functionalism. Yet Adorno lacks O'Gorman's cynicism here, and ultimately upholds the role of a critically productive 'modified aesthetics' (19) in architecture and in all art.

- 12 Beatriz González Stephan has written on hygiene as rhetoric as an interpretation of health codes and discursive practices in nineteenth-century Latin American cities. In her argument, based largely on the *Manual de urbanidad y buenas maneras*, by Manuel Antonio Carreño, proper speech and bodily cleanliness would work to civilize and homogenize national citizenry, as an antidote to barbarism. O'Gorman's rhetoric of hygiene is somewhat distinct from the nineteenth-century 'civilizing' rhetoric found in Carreño and in other manuals that González Stephan cites, because O'Gorman emphasizes temporal and structural fluidity in his logic, borrowing from the paradigm of eugenics, with emphasis on continuity rather than on separation or absolute elimination.
- 13 Here Foucault is referring to the origins of American neo-liberalism, which he contextualizes as beginning in the mid-1930s, as part of a response to Roosevelt's New Deal (216). This historical context corresponds to O'Gorman's period of critical activity in question, as well as to a period of increased urbanization and foreign investment in Mexico, in partial conflict with President Lázaro Cárdenas's mission of collective social justice for the nation.
- 14 A particularly useful source on this topic is Daniel Vargas Parra's essay, 'Fisiología lúdica de la higiene', in which the author analyses the role of sex education in 1930s Mexico as a project of the Sociedad Eugénica Mexicana, and its shifting ties to both explicit eugenics and diverse hygiene programs.
- 15 O'Gorman's unpublished 1955 essay 'The degeneration of architecture in Mexico today' provides insight into the architect's ongoing conflicts with global architectural trends, and their influence in Mexico. See Eggener 2009.
- 16 It is worth noting here that the history of functionalist architecture reveals varied approaches to the complex relationship between functionality and aesthetics. For example, O'Gorman was influenced by both Le Corbusier and the Mexican architect José Villagrán García, who is famous for his 1929 design of the Tuberculosis Sanatorium in Huipulco, among other structures. Yet as Kathryn E. O'Rourke argues in her recent article, Villagrán was in turn heavily influenced by the French architects Julien Guadet and Auguste Perret, and the Beaux Arts tradition of symmetry, proportion (71) and 'the projection of authority' (72). According to O'Rourke, Villagrán, unlike O'Gorman in his early work, 'did not deny the importance of beauty in architecture' (70), despite participating in the 'structural honesty' (69) of modernist architecture. For more on Le Corbusier's influence on O'Gorman, and on the distinctive quality of O'Gorman's Mexican functionalism, see Fraser 2000: 38–41, 55. Also see Burian 2003.
- 17 Despite this insistence on the elimination of artistic expression, O'Gorman did allow for the inclusion of murals in the primary schools he designed. As Luis Carranza notes, 'Anything added to the architecture that appeared to be nonfunctional or ornamental (paint, art, sculpture, and so forth) . . . needed to didactically express the social aims of the functionalist building' (148). Ariadna Patiño Guadarrama offers a more detailed analysis of the role of Julio Castellanos's tryptic mural in the Escuela Héroes de Churubusco, and suggests that, in general, O'Gorman saw the murals in schools as obeying a didactic imperative (147). Yet even if the murals could be said to fulfil such aims, their presence seems to conflict with much of O'Gorman's writing on technical functionalism. A more complete understanding of the role of images in O'Gorman's functionalism would require broader historical contextualization, and is beyond the scope of the present article.

- 18 For an engaging and useful reading of O’Gorman’s architectural nationalism in later decades, in contrast to the vision of Luis Barragán, see Keith Eggener (2000).
- 19 Examples include ‘Después del diluvio que nos trajo el arca’ (1967) and ‘Corrupción y polución en nuestra maravillosa civilización’ (1975). On this mode of O’Gorman’s painting, see for example Rodríguez Prampolini 2005, and Caleb Bach 2006.
- 20 In a 2010 follow-up project to *Utopía-no utopía*, titled *Encauzar la mirada: arquitectura, pedagogía e imágenes en México, 1920–1950*, the editors ultimately focus less on an absolute hierarchical domination of the bodies of school children, and more on diverse modes of observation, and on the complex intersection of activities from both within and outside the classroom (30).
- 21 Also see Keith Eggener’s reading of this painting in his 2003 essay.
- 22 For more on the growth of investment capital and the industrialization of Mexico City in this period, see Diane E. Davis 1994: 109–14.
- 23 The text does not specify the time period for which the cost is calculated.

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