ORTHOPEDIC DESIGN REVISITED: LE CORBUSIER AND L'ESPRIT NOUVEAU, 1920-1925

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Aaron Richmond
Center for Sensory Studies.
Concordia University (Montreal, QC)
mittelman.richmond@gmail.com

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ABSTRACT

In this article, Le Corbusier's orthopedic design principles are revisited as a way of presenting a more generalized set of preoccupations with energy hygiene. By examining how specific design objects reflect the emerging concerns of modern psychology, it will be demonstrated how Le Corbusier saw the decorative arts as a means of managing the energetic aspect of human experience—preventing crises and alleviating the psychological overload that defines a newly urbanized and cosmopolitan set of experiences. In framing design within the broader context of energy hygiene, this paper aims to position Le Corbusier as a comprehensive designer who responded to the medical and techno-scientific demands of modern life.

KEY WORDS: L'Esprit nouveau; Charles-Edouard Jeanneret (Le Corbusier); Aesthetic culture; Energy hygiene; Orthopedics; Decorative arts; Modern psychology.

DISEÑO ORTOPÉDICO REVISITADO: LE CORBUSIER Y L'ESPRIT NOUVEAU, 1920-1925.

RESUMEN

Este artículo revisa los principios de diseño ortopédico de Le Corbusier para presentar una serie de preocupaciones más generales sobre la higiene energética. Examinando el modo en que determinados objetos de diseño reflejan las preocupaciones emergentes de la psicología moderna, se demostrará cómo Le Corbusier veía las artes decorativas como una forma de gestionar el aspecto energético de la experiencia humana, previniendo crisis y aliviando la sobrecarga psicológica que define un conjunto de experiencias recién urbanizadas y cosmopolitas. Al enmarcar el diseño en el contexto más amplio de la higiene energética, el objetivo de este artículo es situar a Le Corbusier como un diseñador integral que respondió a las exigencias médicas y tecnocientíficas de la vida moderna.

PALABRAS CLAVES: *L'Esprit nouveau; Charles-Edouard Jeanneret (Le Corbusier); cultura estética; higiene energética; ortopedia; artes decorativas; psicología moderna.*

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Center for Sensory Studies. Concordia University (Montreal, QC)

From 1920 to 1925, the Paris-based journal *L'Esprit nouveau* printed 28 editions under the direction of the poet, Paul Dermée, the painter Amédée Ozenfant, and the architect Charles-Edouard Jeanneret (Le Corbusier)[1]. Initially described as a « *Revue Internationale D'Esthétique*», its stated program was to "understand the spirit of the contemporary époque" and to "manifest the unified spirit that enlivens the research of the various elites within our society"[2]. In bold capital letters, it proclaimed itself to be the first periodical of its kind truly consecrated to « *L'ESTHÉTIQUE VIVANTE* »[3].

Particularly relevant to the collaborators of *L'Esprit nouveau* is a scientific tradition that conceives of the aesthetic as a privileged domain by which to intervene in the energetic linkages between the individual nervous system and the social body at large. These new sciences used human energy as a central category for understanding the individual nervous system and its relationship to the surrounding social milieu. At all levels – from cell biology to the urban crowd – the doctor emerged as an expert capable of describing pathologies and prescribing the appropriate interventions. Both for the individual and for the collective, these pathologies are repeatedly defined along energetic lines – as problems of excess (hysteria), scarcity (fatigue), influence (suggestibility), and contagion (hygiene)[4].

Le Corbusier was a unique interpreter of such energetic traditions. In what follows, Le Corbusier's orthopedic principles are revisited as a way of presenting a more generalized set of concerns with energy hygiene. By analyzing how specific objects of design reflect medicalized preoccupations, it will be demonstrated how Le Corbusier conceived the decorative arts as managing a quantitative, energetic dimension of human experience: staving off crises and mitigating the traumas of a modern experience characterized by psychological overload. From the promise of using design to restore body and mind, I then deduce a normative psychology consistent with the therapeutic regimes advanced by the psychologist Pierre Janet. By showing how design operates within the broader framework of energy hygiene, the paper aims to claim Le Corbusier as a relevant case study for the architect as comprehensive designer.

Drawing from the sciences, the authors of *L'Esprit nouveau* uniquely rethink aesthetic culture as a function of orthopedic hygiene. While this connection is made most explicit in Le Corbusier's claim that the "decorative arts have become orthopedic," here it is pursued how a similar equation could also be attributed, more generally, to those pursuing the medicalization of modern aesthetic culture at large[5]. This is a historical proposition but also a theoretical one. This paper interest is to pursue the meaning of orthopedics as a contronym, i.e., a concept with a dual and often opposing nature. The orthopedic refers both to a remedying of existing conditions (from *orthos*, making right or straight), and to a prescriptive shaping of human behaviour (from *paideia*, regarding the rearing of children)[6] *(Fig. 1)*. It is proposed that the journal's contributors assume this dual sense of orthopedics, not simply where the word is used, but also more broadly, whenever their social diagnoses are accompanied by forward-looking prescriptions for healthier living. It is suggested that these authors share a reframing of aesthetic experience, such that it can heal and recover on the one hand, while helping to achieve new levels of excellence and productivity on the other.

Figura 1

Frontispiece of Nicolas Andry's.
L'orthopédie ou l'art de prevenir et de corriger dans les enfants les difformités du corps.
Paris, Lambert & Durand, 1741, n.p.

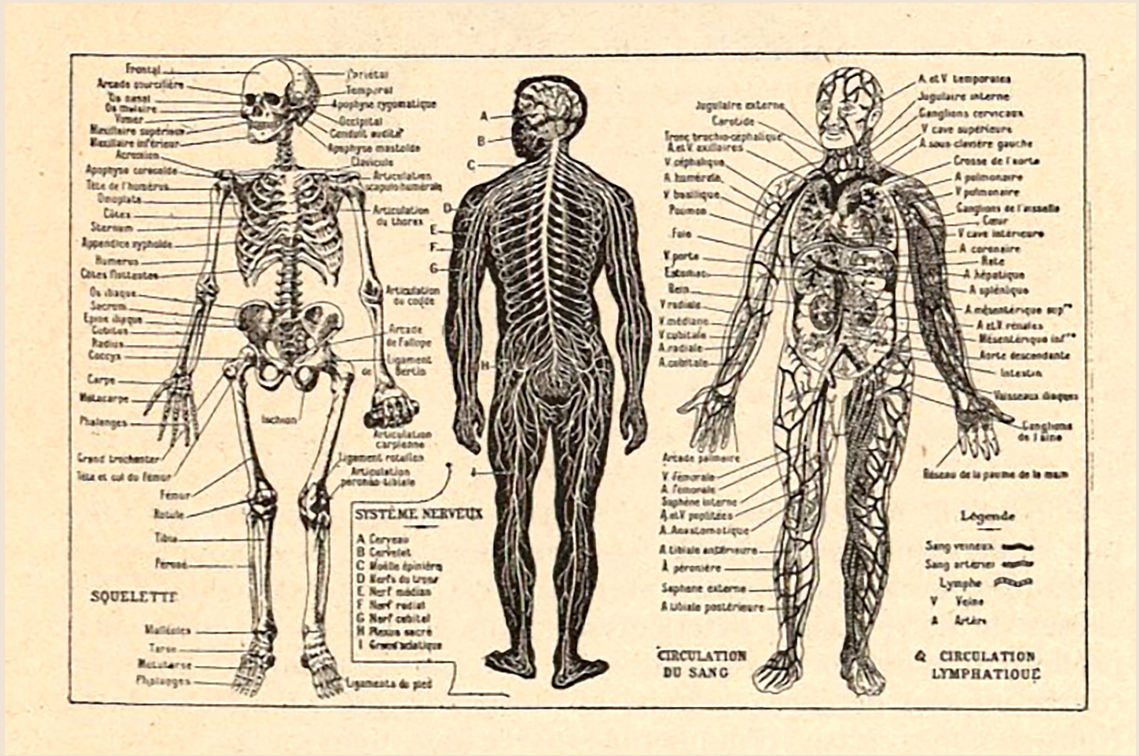
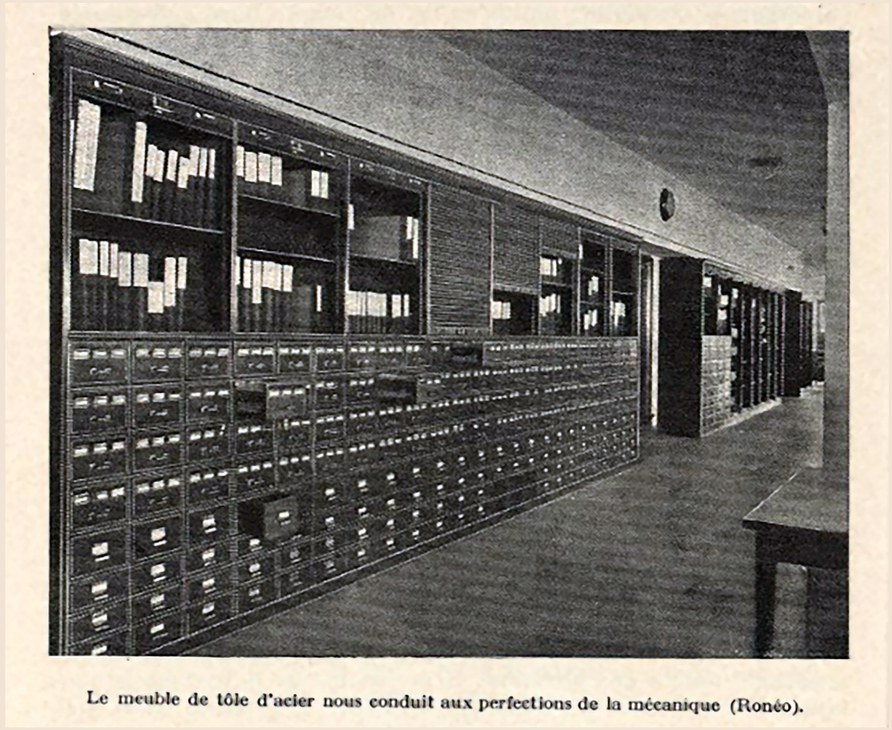


Figura 2

Le grand atlas du corps humain. Paris, Larousse, n.d.
Reproduced in LE CORBUSIER,"Besoins Types - Meubles Types". EN n°23, n.p.

In this paper, Le Corbusier's orthopedic principles are revisited to highlight his broader concern with energy hygiene. While scholars often emphasize his specifications for the "average man," his vision of the nervous system is equally important as a normative ideal. To explore this dimension of aesthetic subjectivity, specific design objects and their medicalized preoccupations will be examined. I argue that Le Corbusier viewed the decorative arts as regulating a quantitative, energetic aspect of human experience—warding off crises and easing modern psychological overload. To illustrate this "energy-hygiene" approach, I trace a network of metaphors: his fascination with shells, turbine engines, and Diogenes in his barrel. I also contend that the chaise longue, considered through the lens of modern psychology, serves as a key typology within a domestic energy economy. From Le Corbusier's promise to use design in restoring body and mind, I derive a normative psychology in which the subject is activated by an inner "sense of truth" and its capacity for synthesis. Finally, I suggest how this psychological model aligns with the therapeutic regimes advanced by Pierre Janet.

Le Corbusier's orthopedic design practice consists of a refinement of prosthetic "limb objects" in service to a healthier and more productive life. Foundational to this refinement is an understanding of the bodily functions to be accommodated for by the domestic sphere (newly dubbed the "machine for living"). Particularly telling is his article « *Besoins Types - Meubles Types* », which has as its epigraph a three-figured Larousse atlas of the human body *(Fig. 2)*. "The whole machine is there," Le Corbusier writes, "carcass, nervous system, blood system, and it is each one of us, exactly and without exception"[7]. In this characterization of the "type body" and its "type-needs," Le



Le meuble de tôle d'acier nous conduit aux perfections de la mécanique (Ronéo).

Figura 3

Ronéo Office Design. Reproduced in LE CORBUSIER, “Besoins Types - Meubles Types”. EN n°23, n.p.

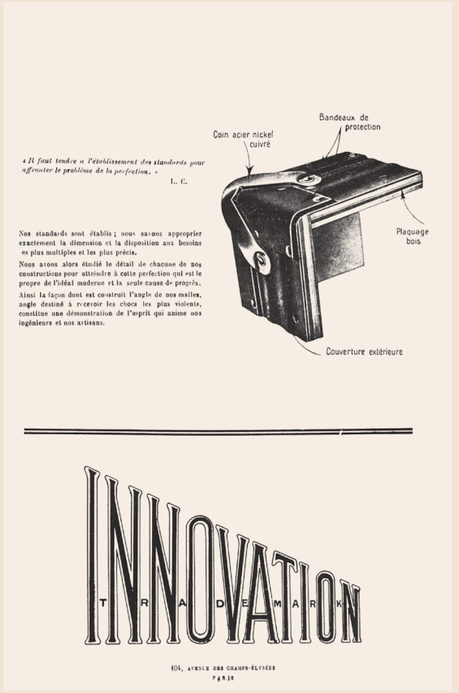


Figura 4

Le Corbusier. ***Advertisement for Innovation.*** EN n°25, n.p.

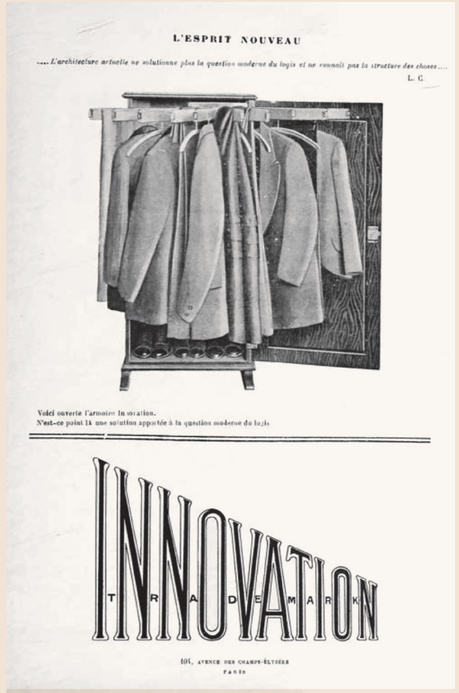


Figura 5

Le Corbusier. ***Advertisement for Innovation.*** EN n°26, n.p.

Corbusier describes the decorative arts as an artificial extension of the body to the “mechanics surrounding us”[8]. It is the “improvement of our protective organs (our skin and scalp),” Le Corbusier writes, that “gives us the primordial cell of the house”[9]. He wages a polemic against an unnamed interlocutor (“one of the lofty characters directing the 1925 Exhibition”) who imagines what would be a more idiosyncratic and sentimental relationship to the objects of one’s life[10]. Against the precious individualism of “object-feelings” and “object-lives,” Le Corbusier proposes “object-tools” and “object-members,” both of which are subservient to the more categorical needs of the human body[11]. Here as elsewhere in the journal, the individualism of the psyche is deemed to be “overestimated,” or at least “disproportionate” to the more common patterns of “l’homme moyen,” or the statistical man[12].

Previous studies of Le Corbusier have largely focused on the anatomical dimensions of the so-called “statistical man.” These analyses have explored the Modulor as a system of human-based proportions, the design of building envelopes for “exact respiration,” and urban plans in which roads and mechanical systems flow between vital centers like blood through organs. Far less attention, however, has been given to how his design principles were informed by the nervous system[13].

We can begin to map out Le Corbusier’s understanding of the nervous system by noting the objects that he most frequently uses to illustrate the principles of orthopedic design. A survey of the objects featured in the journal reveals that they almost always pertain to one of three categories. First, there are objects used for rest: as expressed in the functional variety of chairs, i.e., for work, for conversation, or for complete rest (about which more will be said below). Second, there are objects used for purposes of organization and classification in both office and home *(Fig. 3)*. And third, there are suitcases, luggage, and handbags: objects of travel adapted for the needs of a new cosmopolitan elite. These pre-occupations (again, with resting, organization, and travel) question the organizational limits of the subject and the management of its energy within various domains of activity. By comparison with other international trends in designing for the healing body – think for instance, of the sanitoria designed by Alvar Aalto and Jan Duiker - we might say that Le Corbusier is designing first and foremost for a man of action. “I will always feel certain, Le Corbusier writes, “that man is an active being in world in action, and not a passive element”[14].

But what more might be said about this active creature? Or to borrow a question posed in Alina Payne’s *From Ornament to Object,* how might we begin to read these design objects as “synecdoches” for the man inside?[15]. Here, I think it bears noting that wherever we encounter objects made for human optimization, they are described through nervous pathologies such as anxiety and fatigue. Consider for instance Le Corbusier’s extensive collaboration with the American furniture manufacturer *Innovation* - for whom he both designed and captioned a set of 19 advertisements in the journal *(Figs. 4 and 5)*. These objects for the healthy modern man are accompanied by the recurrent spectre of his illness. The mechanics of a closet organizer are meant to alleviate “the narrowness of the closet [that] make[s] you feel insecure and impatient”[16]. A domestic drawer set is designed to “remove all [that is] superfluous to the indispensable acts of the agitated life”[17]. Even the technical specifications detailing a corner of luggage is described as an “angle intended to receive the most violent shocks”[18]. In this final description, we encounter a motif commonly used to describe the psychological traumas of modern experience. This includes the diagnosis of “shell-shock”, as developed by the British Psychologist Charles Myers in his observations of soldiers on the French war front[19]. But prior and more extensively, by the late 19th century, the notion of *choc* had already been transposed from a word describing military violence to one evoking the assaults of urban experience on the individual psyche[20].

For Le Corbusier, the risks of psychological shock are anticipated not only for the cosmopolitan traveler but also within the domestic sphere. For instance, when noting the contrast between the scientific efficiency recently brought into workplace management, and the neglect of these principles within a now-antiquated living space, Le Corbusier imagines a banker: "When he gets home, he is welcomed by a load of curios capable of exploding the manometer of reason, if one could fix a manometer of thoughts on our skulls. Here, at home, he no longer works, he doesn't produce; he can lose, waste his time, trouble his spirit, wear it out, lie to it" [21]. A device for measuring pressures, the manometer suggests a scientific imaginary in which the qualitative activities of mind and spirit have a corresponding economy of quantitative energies and drives. For Le Corbusier, it is the task of the decorative arts, reframed as orthopedic hygiene, to manage this quantitative dimension of human experience. "When one factor in our technical-cerebrospinal-emotional equation grows disproportionately, a crisis occurs, since the relationships are disturbed – the relationships between our cerebrospinal emotional being and the things we use that are around us"[22]. The primary task of orthopedics, then, is to stave off crises and mitigate the traumas of psychological overload.

For Le Corbusier, the risk of psychological shock arises not only in the life of the cosmopolitan traveler but also within the home. Contrasting the scientific precision of modern workplace management with the disorder of outdated interiors, he describes a banker returning home: "When he gets home, he is welcomed by a load of curios capable of exploding the manometer of reason, if one could fix a manometer of thoughts on our skulls. Here, at home, he no longer works, he doesn't produce; he can lose, waste his time, trouble his spirit, wear it out, lie to it"[23] .

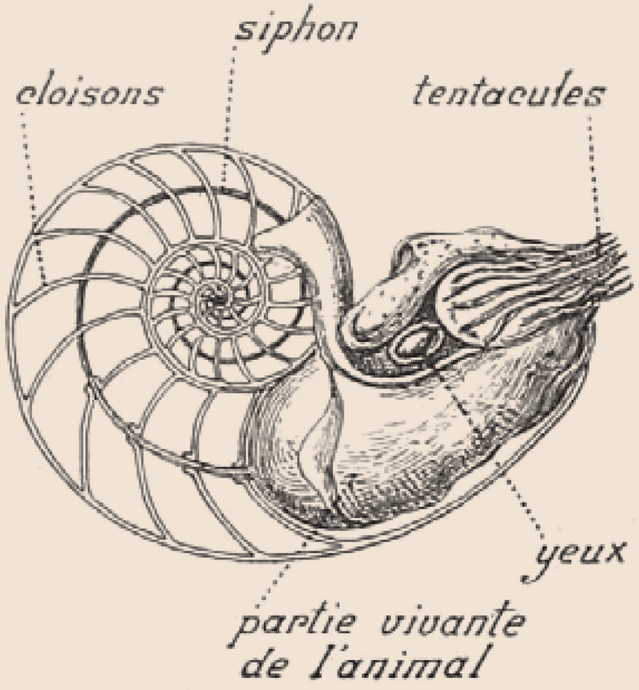


Figura 6

Gastón Bonnier.
L'Enchainement des organismes. En DEYROLLE E., Histoire naturelle de la France.
1882. Reproduced in LE CORBUSIER, *The Decorative Art of Today*, trans. James Dunnett, Cambridge, Massachusetts, MIT Press, 1987, p. 182.

The manometer—used to measure pressure—serves here as a metaphor for a mental economy, one in which thought, emotion, and energy operate on measurable terms. For Le Corbusier, the decorative arts, reconceived as a form of orthopedic hygiene, are responsible for regulating this economy. "When one factor in our technical-cerebrospinal-emotional equation grows disproportionately, a crisis occurs, since the relationships are disturbed". The role of design, then, is to prevent such crises—to absorb shocks and manage the strains of psychological overload.

This protective function of orthopedic design offers a suggestive re-opening onto Le Corbusier's familiar fixation with the typology of shells[24]. As is well known, Le Corbusier kept a collection of shells, several of which were included in the interiors of the 1925 *Pavillon de L'Esprit nouveau.* The symbolic value of these objects was likely informed by what Paul Valéry, in his 1923 dialogue *Eupalinos, or the Architect,* described as an uncanny ambiguity between the natural and man-made[25]. In the formal perfection achieved by these *object ambigus,* it has been suggested that Le Corbusier found an evolutionary model for a machine aesthetic that was both advanced and primordial at the same time[26]. And indeed, Le Corbusier's solicitation of photographs by the Dutch magazine Wendingen suggests his newfound admiration for how x-ray technology had finally laid bare the shell's timeless geometries[2]. However, at times, the fact that these geometries were produced – even naturally secreted – directly from a living being was equally significant for Le Corbusier. An illustrated anatomy in his article "The Sense of Truth" details the interconnectedness between the snail's hardened shell and the « *partie vivante de l'animal*[28]» *(Fig. 6)*.

What is at stake in this interconnectedness between the living creature and its hardened exterior? First, worth noting here is a continuity between a 19th-century Romantic vitalist discourse that sees technology in continuity with the living creature[29]. As described by Canguilhem, proponents of this continuity observed in machine building an expression of irrational bodily imperatives: natural processes that extended the limits of the body[30]. With Le Corbusier, this tradition takes a somewhat complicated turn. For indeed, the shell imagines a body which is naturally pre-disposed to its own self-sufficiency. It is because of its own vitality –and not the imposition of a negative principle of society, technology, etc. – that the living creature produces a protective membrane that can be self-sustained regardless of location. Or, like Diogenes in his barrel, to cite another recurring figure within the Le Corbusien imaginary, a subject is "born naked and with insufficient armor", and is thus organically disposed to find the artificial means of its protection[31]. As Mark Wigley has pointed out, there is a certain perversity to the way this "insufficiency" conditions the requirement for prosthesis. "In a strange way[32], Wigley writes, "the body depends upon the foreign elements that transform it". Wigley's uses of prosthesis are helpful in appreciating the object-oriented dimensions of Le Corbsusier's thinking: his fragmentation of the body and its behaviours into discrete type-needs met with a corresponding refinement through objects of design. Moreover, Wigley's references to Freudian theory, with its analysis of a dynamically cathected (i.e., invested) objectivity, makes for a compelling ancillary to these claims. Yet notably elided by this prosthetic logic are the global dimensions of Le Corbusien psychology: the ways in which such fragmentations always appear under the horizon of subjective individuation as conceived under the terms of a dynamic energy economy. In this respect, I suggest that Le Corbusier's orthopedics cannot be

adequately addressed via the logic of prosthesis, nor can his normative psychology be expressed with recourse to the Freudian subject. For more than an evolution in the techniques of defense – i.e. prosthetic objects compensating for the traumas of war - orthopedic design treats individuation as a problem of action[33]. Following the tenets of modern energy science, the subject is defined, first and foremost, in its capacity for doing work.

Beyond its protective function, Le Corbusier's shell also connotes the activity and dynamism that is constitutive of a healthy modern man[34]. Where the tradition of ornamental encasement represents a pacifying narcotic – meant to cool the "feverish pulses and nerves shattered in the aftermath of war" – the shell's purity, also its "nakedness," suggests the requisite simplicity needed for an active life[35]. This emphasis gains a further dimension if we consider pictorial associations frequently made by Le Corbusier between the naked shell and the turbine engine. More than a formal resemblance between primordial nature and modern machine, this association asserts the subject as a dynamic self-contained system, capable of radiating outward varying degrees of productive energy. By this logic, the shell's nakedness represents a subject that is not diverted from its own projects, but rather continuously building outward from an interior living core. This subject's expansion relies upon an asceticism towards anything that encumbers its capacity to be alone with itself and to think: "The naked man – but he is an animal worthy of respect who, feeling a head with a brain on his shoulders, sets himself to achieve something in the world"[36]. Nakedness, shells, Diogenes in his barrel: For Le Corbusier, these are all figures of psychological hygiene. They represent the preconditions for a life of unfettered production.

Precisely at odds with the Freudian project, Le Corbusier's metaphors allow him to imagine human psychology not through an introspective "unloosening" of the mind, but rather as an outward expansion from one's innermost sense of judgement[37]. Le Corbusier writes: "An active being carries with him the sense of truth, which is his power of judgment. It is an imperative which is at the same time his lucidity and his force"[38]. By contrast with analysis, judgement for Le Corbusier refers to a capacity for synthesis. It is the faculty which proceeds from the most minute and effervescent details to their participation in universal geometries – or from "the brute object to the cosmic phenomenon"[39]. Judgement, which is also described by Le Corbusier as "one's inner sense of truth," is the central animating principle of the productive life. In relation to the shell, we might say that it represents "le partie vivante d'animal"[40].

This dimension of Le Corbusien psychology is most clearly articulated through the orthopedic design of rest. And here I suggest that, for Le Corbusier, it is not the family hearth nor the matrimonial bed but rather the *chaise longue* that occupies the center of a domestic energy economy. The *chaise longue* – which was later designed and patented in collaboration with Charlotte Perriand – appears as a constant within Le Corbusier's writings of the early 1920s[41]. In stark contrast with the Freudian chaise *(Fig. 7),* whose ornamentation is an invitation to encounter the associative mind as a hidden dreamscape, Le Corbusier imagines the *chaise* as a salutary moment of pure passivity in an otherwise active life *(Fig. 8)*. "When I designed this chair, I imagined a cowboy at the end of a day, perfect rest"[42]. Note that Le Corbusier's perfect restfulness here describes a form of passivity that is primarily physiological in nature. Inspired

Figura 7

Robert Huffstutter.
The couch in Freud's study.
2004. Wikimedia Commons.

Figura 8

René Zuber.
Charlotte Perriand on chaise longue basculante.
1928. Reproduced in RÜEGG, A. *Le Corbusier: Furniture and Interiors 1905-1965*, Paris, Zürich, Fondation Le Corbusier, Scheidegger & Spiess, 2012.

Figura 9

Advertisement for Surrepos chair.
L'Illustration n° 4623, 10 October 1931, n.p.

by the trademark Surrepos chair designed by Dr. Picaud in 1918 *(Fig. 9)*, Le Corbusier conceived of the *chaise* as a set of ideal conditions in which bodily systems regain their equilibrium[43]. At a more psychological register, the chaise supports an activity which Le Corbusier describes as 'meditation.' Here again we encounter that ground zero of Le Corbusier psychology, a kind of ruminating inner sense of truth or judgment cultivated by the perception of great works of art: "We organize our actions and free ourselves, we think about something – art for example (because it is very comforting"[44]. Note here how seamlessly Le Corbusier wraps a moment of reprieve into the organization of "actions." Even the most physiological form of passivity must be justified within a life of production.

More than a Freudian prosthetic model, Le Corbusier's orthopedics align more closely with the therapeutic framework proposed by French psychologist Pierre Janet. Notably, Janet grounded fin-de-siècle psychology in earlier "spiritualist" ideals of a unified Cartesian subject[45]. Against emerging experimental models that fragmented this convention (the so-called « moi intérieur »), Janet proposed a philosophical compromise: the subject's fundamental unity should be preserved as a normative ideal[46]. While Freud's psychoanalysis called for a rupture of ego unity, Janet's model sought restoration—envisioning personhood as gradually assembled through successive mental syntheses. As he writes in his 1896 *Manuel du Baccalauréat*: "The unity and identity of the personality, far from being granted from the first moment of life as intuitions, far from being the mechanical result of sensation itself, must be gradually acquired and constructed. The unity of the personality is the ideal and endpoint of our efforts"[47] .

In Janet's model, consciousness unfolds along a continuum of evolutionary gradations. Where others saw nervous disorders or altered states as threats to psychic cohesion, Janet viewed them as signs of a subject operating within lower tiers of mental function. Recovery, for him, depended on the subject's ability to ascend to higher levels of consciousness—not through introspection or talk therapy, but rather as an evolution of mental synthesis that were "*concomitant* to a life of action"[48].

Janet's view of the self as a dynamic pairing of mental synthesis and action offers a useful framework for understanding the normative psychology behind Le Corbusier's orthopedic design. Like Janet, Le Corbusier imagined a subject restored and optimized through a return to an "inner sense of truth." For him, the value of art lay in its ability to anchor the individual within a core faculty of judgment—seen as the source of vitality from which higher forms of thought and action arise. This psyche is not revealed through introspection but acts, like a turbine or shell, as a synthetic force expanding outward[49].

Also echoing Janet, Le Corbusier portrays the individual navigating a hierarchy of action. In his call for a "reorganization of the domestic economy," health is linked to the conservation and redirection of energy. "We escape the petty actions, accidents, sterile chores," he writes—evoking a body lifted from menial repetition toward purposeful achievement[50]. This hierarchy mirrors Janet's therapeutic model, which restored nervous function by cultivating a person's ability to complete minor tasks, gradually building toward higher pursuits like art, science, or politics[51] . By streamlining everyday tasks, Le Corbusier's design aims to facilitate this progression—envisioning architecture itself as a therapeutic tool.

To recap: in Le Corbusier's orthopedic design, we find an effort to organize and manage the human nervous system. His approach privileges practices that unify the subject and minimize unnecessary dispersions of energy and attention. The shell, nudity, Diogenes in his barrel—these ascetic figures frame the individual as a private energy economy. At its core lies the faculty of judgment: an inner sense of truth that underpins all productive activity. From the meditative repose of the chaise longue to the mobile life of the cosmopolitan traveler, well-being depends on shielding oneself from the shocks of urban life while sustaining a repertoire of purposeful actions.

Orthopedic design, then, is therapeutic not by revisiting the past analytically, but by reorienting it synthetically toward future aims. "I only need what is useful to me," Le Corbusier writes in *L'Art décoratif d'aujourd'hui*[52] . In the spirit of Janet, synthesis becomes a kind of positive psychology—consciousness shaped not by unconscious associations but by the lucidity of aesthetic judgment[53]. For the *homme moyen*, aesthetic discernment is the engine of the productive life.

[1] *L'ESPRIT NOUVEAU, Revue internationale d'esthétique* (n°1-3), *Revue Internationale illustrée de l'activité contemporaine* (n°4-28), Paris, Société des Éditions de L'Esprit nouveau, 15 Oct. 1920 - Janv. 1925, Reprint: New York, Da Capo Press, 1969. (Subsequent citations to the journal will be abbreviated as *EN*). Dermée ceded his directorship after only three issues, though continued as both author and collaborator in subsequent issues. On the details of his involvement, see: VICOVANU, I., *L'Esprit nouveau (1920-1925) and the Shaping of Modernism in the France of the 1920s*, PhD diss., Baltimore, Johns Hopkins University, 2010, pp. 7, 50-59. See also LEVAILLANT, F., "Norme et Forme à Travers L'Esprit Nouveau," in *Le Retour à l'ordre Dans Les Arts Plastiques et l'Architecture, 1919-1925*, Paris, Centre interdisciplinaire d'études et de recherche sur l'expression contemporaine, 1975, p. 266.

[2] *EN* n° 1, ii-v. Unless otherwise noted, all translations are by the author. When the language is particularly relevant, the original is included in the notes.

[3] *Ibid.*, iii.

[4] On other illnesses conceived as problems of "energy" see in particular Anson Rabinbach's reading of Albert Deschamps, *Les Malades de l'energie (1908)* in RABINBACH, A., "Neurasthenia and Modernity," in CRARY, J. and KWINTER, S. (eds.), *Incorporations*, New York, Zone Books, 1992, p. 178. On questions of contagion in Gustave Le Bon and Henry Conzalis, see TEYSSOT, G., "Norm and Type: Variations on a Theme," in *Architecture and the Sciences: Exchanging Metaphors,* PICON, A. and PONTE, A. (eds.), New York, Princeton Architectural Press, 2003, pp. 141-173.

[5] LE CORBUSIER, "Besoins-types. Meubles-types", *EN* n° 23, n.p.

[6] The term was introduced by the French physician and writer Nicolas Andry in his 1743 book *L'orthopédie ou l'art de prevenir et de corriger dans les enfants les difformités du corps*. Oxford English Dictionary, accessed December 5, 2022 [https://www.oed.com/view/Entry/132846#eid32980533]. The image appears in FOUCAULT, M., *Discipline and Punish: The Birth of the Prison*, Translated by Alan Sheridan, New York, Vintage, 2012, p. 257.

[7] LE CORBUSIER, "Besoins Types…", *op. cit*.

[8] *Ibidem*.

[9] *Ibidem*.

[10] The Exhibition refers to the *International Exhibition of Modern Decorative and Industrial Arts*, held in Paris from April to October 1925. Le Corbusier writes "Pourtant récemment, l'un des hauts personnages dirigeant les destinées de l'Exposition de 1925 s'insurgeait violemment; l'esprit attaché à la multiple poésie, il réclamait pour chaque individu un objet différent, prétendant à des cas chaque fois particuliers". *Ibidem.*

[11] "A l'objet-outil, l'objet-membre, on nous oppose l'objet-sentiment, l'objet-vie". LE CORBUSIER, "Besoins Types…", *op. cit*.

[12] The term "*homme moyen*" is derived from Adolphe Quetelet's 1835 *Sur l'homme et le développement de ses facultés.*

[13] See in particular: CURTIS, W., *Le Corbusier: Ideas and Forms*, London, Phaidon Press, 1986.

[14] LE CORBUSIER, *The Decorative Art of Today*, Translated by James I. Dunnett, Cambridge, MA, MIT Press, 1987, p. 180.

[15] PAYNE, A., *From Ornament to Object. Genealogies of Architectural Modernism*, New Haven, Yale University Press, 2012, p. 149.

[16] LE CORBUSIER, *Advertisement for Innovation*, *EN* n° 22, n.p.

[17] LE CORBUSIER, *Advertisement for Innovation* (Advertisement), *EN* n° 18, n.p.

[18] LE CORBUSIER, *Advertisement for Innovation* (Advertisement), *EN* n° 25, n.p. The advertisement claims the Innovation trunk is "the most scientifically studied and the most solidly constructed trunk that has ever existed. See the discussion of this collaboration in TROY, N., *Modernism and the Decorative Arts in France: Art Nouveau to Le Corbusier*, New Haven, Yale University Press, 1991, pp. 213-217.

[19] The British Psychologist Charles Myers was stationed in France during the First World War. His article describing the post-traumatic effects of war is largely seen to have popularized the notion of "shell-shock." MYERS, C., *Shell Shock in France, 1914-18*, Cambridge, UK, Cambridge University Press, 1940.

[20] Well known is the extensive description of shock's significance as it traverses between psychology and modern poetry as found in BENJAMIN, W., "On Some Motifs in Baudelaire," in *Selected Writings: 1938-1940*, Translated by Rodney Livingstone, Cambridge, MA, Harvard University Press, 1996, p. 318. A similar line of analysis appears in SIMMEL, G., *"The Metropolis and Modern Life," in George Simmel on Individuality and Social Forms,* LEVINE, D. (ed.), Chicago, University of Chicago Press, 1971, p. 324.

[21] LE CORBUSIER, *Precisions on the present state of architecture and city planning*, Cambridge, MA, London, England, The MIT Press, 1991, p. 109.

[22] LE CORBUSIER, "Besoins Types…" *op. cit.*

[23] LE CORBUSIER, *Precisions…, op. cit.*, p. 109.

[24] Niklas Maak writes: "Unlike the surrealists, who used objects as points of departure for generating individual associations, Le Corbusier sees in them a manual for understanding the universal laws of nature." See Maak's discussion of the ambiguous object in MAAK, N., *Le Corbusier: The Architect on the Beach*, Munich, Hirmer, 2011, pp. 121-124.

[25] In 1926 Le Corbusier made a direct reference to Eupalinos in his Almanach d'architecture moderne (1925): "In a book with the title *Eupalinos*, or *The Architect*, Paul Valéry, succeeded as a poet in saying things about architecture that a professional would never be able to formulate, because [the professional's] lyre is not attuned to that tone: he has felt and expressed admirably many profound and rare things that an architect senses when he creates." LE CORBUSIER, *Almanach d'architecture moderne*, Paris, Éditions G. Crès, 1925, p. 26. On the uncanny dimensions of Le Corbusier's "*objects ambigus*" and their relation to surrealism, see VIDLER, A., *The Architectural Uncanny: Essays in the Modern Unhomely*, Cambridge, MA, MIT Press, 1992, pp. 156-157.

[26] BANHAM, R., *Theory and Design in the First Machine Age*, London, Architectural Press, 1960, p. 259.

[27] BENTON, T., *LC Foto: Le Corbusier: Secret Photographer*, Zürich, Lars Müller, 2013, pp. 31, 309.

[28] LE CORBUSIER, *The Decorative …, op. cit.*, p. 182.

[29] See this discussion of Canguilhem in BRESSANI, M., "Viollet-le-Duc's Organic Machine," in *Architecture/Machine*, in GLEICH, M. and STALDER, L. (eds.), *Gta Papers*, Zurich, Switzerland, Gta Verlag, 2017, pp. 60-61.

[30] *Ibidem.*

[31] LE CORBUSIER, "Besoins Types…" *op. cit*. A helpful discussion of Diogenes can be found in GRONBERG, T., "Speaking Volumes: The 'Pavillon De L'Esprit Nouveau'", *Oxford Art Journal* 15, no. 2, 1992, p. 64.

[32] Perversity is a term used by the author. Wigley's argument helpfully contrasts Le Corbusier's "insufficiency armoured body" with what Freud's theorized as an originary "deficiency" produced by exile from "the first lodging" – i.e. the womb. WIGLEY, M., "Prosthetic Theory: The Disciplining of Architecture", *Assemblage*, no. 15, 1991, p. 8.

[33] Several scholars have shown how the logic of prosthesis is both theoretically and historically tied to the experience of warfare. On this theme see BRESSANI, M., "Prosthetic Fantasies of the First Machine Age: Viollet-le-Duc's Iron Architecture", *AA files*, no. 68, 2014, pp. 43-49. A similar distinction informs Tim Armstrong's definition of two types of "prosthetic modernism:" one negative, which responds to a perceived lack in the body, and one positive, which uses technology to augment the body into new utopian futures. ARMSTRONG, T., *Modernism, Technology and the Body: A Cultural Study*, Cambridge, University Press, 1998.

[34] See ELLIOTT, B., "Modern, Moderne, and Modernistic: Le Corbusier, Thomas Wallis and the Problem of Art Deco," in *Disciplining Modernism*, London, Palgrave Macmillan, 2009, pp. 134–135.

[35] Walter Benjamin writes: "The étui-man looks for comfort, and the case is its quintessence. The inside of the case is the velvet-lined trace that he has imprinted on the world". BENJAMIN, W., "The Destructive Character," in *Selected Writings: 1931-1934*, Translated by Edmund Jephcott, Cambridge, MA, Harvard University Press, 1999, pp. 541-542.

[36] LE CORBUSIER, "Besoins Types…" *op. cit*. "On nakedness and philosophy in the French Lycée, Goldstein describes the student's initiation into a mode of inquiry "that allegedly revealed thought "in its nakedness. GOLDSTEIN, J., "Neutralizing Freud: The Lycée Philosophy Class and the Problem of the Reception of Psychoanalysis in France," *Critical Inquiry* 40, no. 1, 2013, p. 48.

[37] LE CORBUSIER, *The Decorative…op. cit.*, p.181.

[38] *Ibidem*., p. 180.

[39] *Ibidem*., p. 181.

[40] *Ibidem*., p. 182. Nancy Troy characterizes this emphasis on judgment as part of Le Corbusier's broader transitioning of "creative prerogative" from handcraft to processes of calibration and a selection, informed by an evolutionary model. TROY, *op. cit.*, p. 5.

[41] See examples in CAMPBELL, M., "From Cure Chair to Chaise Longue: Medical Treatment and the Form of the Modern Recliner," *Journal of Design History* 12, no. 4, 1999, pp. 327–343.

[42] FISCHER, V., *The LC4 Chaise Longue by Le Corbusier, Pierre Jeanneret and Charlotte Perriand*, Frankfurt am Main, Verlag form, 1999, p. 15.

[43] BENTON, C., "Le Corbusier: Furniture and the Interior," *Journal of Design History* 3 no. 23 (1990): 103–24, 113. See also CAMPBELL, M., "What Tuberculosis Did for Modernism: The Influence of a Curative Environment on Modernist Design and Architecture," *Medical History* 49, no. 4, 2005, pp. 463–488.

[44] LE CORBUSIER, "Besoins Types…" *op. cit*.

[45] See CARROY, J., "The Post-Revolutionary Self: Politics and Psyche in France, 1750-1850", *French Studies* 61, no. 4, 2007, pp. 519–520. Of "spiritualism," Goldstein asserts that the term was generally used as a "code word for generic Cousinianism, with its mind-body dichotomy and space for metaphysical inquiry. GOLDSTEIN, *op. cit.*, p. 57.

[46] These included studies of dreaming, automatic process, and multiple personality disorders. On these histories, see CARROY, *op. cit.*, pp. 519-20; GOLDSTEIN, J., *Console and Classify: The French Psychiatric Profession in the Nineteenth Century*, Cambridge, Cambridge University Press, 1987; HACKING, I., *Rewriting the Soul: Multiple Personality and the Sciences of Memory*, Princeton, Princeton University Press, 2001, pp. 171-182.

[47] Janet cited in CARROY, J., y PLAS, R., "How Pierre Janet Used Pathological Psychology to Save the Philosophical Self," *Journal of the History of the Behavioral Sciences* 36, no. 3, 2000, p. 237.

[48] *Ibidem*., p. 235.

[49] An alternative rendering of a similar centrifugal logic is described in Hillel Schwartz' definition of the kinaesthetics of *torque:* "a spiral at whose radiant center was a mystical solar plexus and at whose physical axis was the preternaturally flexible spin, bound link by vertebral link to the earth as to the heavens". SCHWARTZ, H., "Torque: The New Kinaesthetic of the Twentieth Century," in CRARY, J. and KWINTER, S. (eds.), *Incorporations*, New York, NY, Zone Books, 1992, p. 75. Beatriz Colomina also makes a suggestive link between the spiral form and modern psychology and the question of individuation. COLOMINA, B., "L'Esprit nouveau: Architecture and Publicity," in COLOMINA, B. and OCKMAN, J. (eds.), *Architectureproduction*, New York, Princeton Architectural Press, 1988, p. 63.

[50] Le Corbusier writes: "Hierarchy. First the Sistine, that is to say the works where a passion is truly inscribed". *Ibidem*.

[51] LE CORBUSIER, *Advertisement for Innovation*, *EN* n° 18, n.p.

[52] LE CORBUSIER, *The Decorative…op. cit.*, p.180.

[53] Against scholars who suggest Janet was a positivist, Carroy prefers the term "positive psychologist." See CARROY, J, OHAYON, A. et PLAS, R., "La psychologie au Collège de France", *Revue philosophique de la France et de l'étranger* 140, no. 2, 2015, pp. 225-228.

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