

Spanish echoes of Jakob von Uexküll's thought

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It is interesting to observe to what extent an idea can become, in the course of time, a matter of fact. That which once required a creative effort and was a discovery, the newest trend in a certain domain, some day forms part of the secondary school curriculum or is just taken for granted as a common background understanding, a structure incorporated into a world-view. The original effort of understanding has become a patterned activity, available to those belonging to a certain community. Such transformation is only possible for those ideas that are not isolated, but correspond to the intellectual spirit of an epoch up to a dissolution, up to the loss of personal authorship. Generally, the fate of the concepts put forward by Jakob von Uexküll is far from being so; nevertheless, some aspects of Uexküll's thought were in such degree congenial to the whole of the organismic and relativist streams of ideas that, once formulated, turned out to be highly fruitful outside the disciplinary limits of biology. In Spain it was made possible due to the efforts of Jose Ortega y Gasset whose activities aimed at the popularization of Uexküll's ideas and had an outcome in the form of several publications, in addition to discussion within his own lectures and articles. Thus, Ortega initiated the Spanish translation of a collection of works by Uexküll that was published in a series entitled 'Library of ideas of the XX century' (Uexküll 1922),¹ with Ortega's preface.

The importance of the notion of Umwelt not only for the 'new biology' conceived as an autonomous discipline ('not physics applied to the organisms', Ortega y Gasset 1955, 4: 310), but also for a very general approach to perception and cognition enables Ortega to list Uexküll along with Einstein, Plank, Spengler, Brouer, and Weyl (Ortega y Gasset 1955, 3: 304). In 1939 Jose Ortega y Gasset, with reference to Uexküll's theory, confessed in his treatise 'Meditations on technique': 'I should declare that since 1913 these biological meditations have effected a great influence on me. This influence has not been merely scientific, but rather emotional. I am not aware of other suggestions that would be more

efficient than those of this thinker to impose order, serenity and optimism onto the confusion of contemporary mind' (Ortega y Gasset 1955, 4: 308).² The order imposed by Uexküll's suggestions has made the idea of organism and environment as a functional whole one of the departure points of Ortega's own meditations.

It is in a very curious context that Ortega first made an attempt to elaborate a fragment of his own theory using biological notions and at some length — for a couple of pages is much space for an author who preferred brief essays to long treatises — discussed Uexküll's approach, trying to apply it to human cultural environment. We will try to trace these reflections and developments, though it is not easy to adapt one of their lines separately from Ortega's philosophy as a whole — and, moreover, it is highly questionable whether these ideas are indeed instigated by Uexküll's writings or, on the contrary, Uexküll's theory is mentioned because it proved to be in harmony with Ortega's conceptions.

In his paper entitled 'The "Quixote" in the school' (1920) the Spanish philosopher considers the question whether it is possible to teach the famous novel by Cervantes in secondary school. In which respect could it be useful for schoolchildren? Does it prepare them for adult life? The question is, according to Ortega, in the receptive capacity of children and in the teaching capacity of the teacher.

In order to establish the relative adaptive value of learning the novel of Cervantes at school compared to the learning of up-to-date technical information and skills, Ortega proposes a comparative analysis of the vital functions of man, both bodily and psychic ones. According to him, some of them are superficial, whereas other ones are more fundamental and deeply rooted.

The use of tools, being a specialized technique, in some measure is analogous to the use of bodily organs, intended for a definite purpose: 'any stable organ — to the extent to which it is stable, has a fixed form and a pre-determined functioning — has the character of a machine, and its use, of a mechanical function' (Ortega y Gasset 1955, 2: 279).³ This is a sort of mechanized, secondary vitality. An organ provides the organism with certain benefits, but at the same time makes the whole organism a hostage to those benefits. That which moves the whole organism is another kind of vitality, since life cannot be correctly described simply as a sum of seeing, hearing, moving, digesting, etc.

The most basic psychic functions are those which are previous to any crystallization of the psyche into specific devices and operations: they are 'the root of the personal experience'. Among them are such functions as curiosity, courage, imagination, drive to enjoy and to win, self-confidence, and confidence in the world; at first glance they can seem

contrary to adaptation. Compared to such spontaneous functions, the non-spontaneous perception, memory, and all the cultural devices intended to enhance and to shape them, are regarded by Ortega as derived and secondary. Culture and civilization give a ready-made shape to the original spontaneous vitality of an individual; at the same time, the original creative vitality of the 'savage' individual has been, in its turn, the source of the 'civilized' cultural forms themselves. This reminds us of theories (not only Ortega's) concerning the sports and ludique function as underlying the origin of culture.

Biological examples and concepts, from infusorium and *Rhizostoma pulmo* to internal secretion, are widely used by Ortega, and sometimes they are more than mere illustration. Thus, internal secretion is taken as a metaphor of a regulatory principle acting on the whole organism — and thus related to primary functions. So he calls the alternative approach in pedagogy a 'pedagogy of internal secretions' ('pedagogia de las secreciones internas'): 'Current pedagogy is engaged in adapting our vitality to the environment; that is to say, it does not care for our vitality itself'. Whereas a quite different approach is required to cultivate the vitality: 'instead of adapting the man to environment, [the pedagogy] should adapt the environment to the man; in place of hurrying up to convert us into efficient instruments for these or those transitional forms of civilisation, it should instigate, impartially and with no prejudice, the initial vital tone of our personality' (Ortega y Gasset 1955, 2: 293–294).⁴

The culture being a mechanization of primitive vitality, the task of primary education should be to protect the basic vital drives from mechanization embedded in the use of specialized functions and organs. That is, in order to provide for a broader creative realization of men, it is the *natura naturans*, the living life, that should be cared about first, and only later comes the turn of the cultural patterns of the mechanic life, *natura naturata*. Early specialization is dangerous because it may result in the failure of a reaction to a changing environment.

To explain his understanding of human environment (for environment, he uses a metaphoric term 'landscape', and elsewhere, in rather different contexts, the word 'circumstance'), Ortega dedicates a special sub-chapter entitled 'Vital environment' to exposition of the idea of Umwelt (Ortega y Gasset 1955, 2: 298–299). He remarks that he has been developing the conception of 'vital environment' since 1914, when his work 'Meditaciones del Quijote' ('Meditation on Quixote') was published, that is, before he got acquainted with Uexküll's works.

During the 1920s, the ideas of dialogue with environment,⁵ of the complementarity of the organs to the elements of environment and of reality as intrinsically linked to a perspective of cognition — all of them

more than once appear in Ortega's works as one of the starting points of explanation. Even where no mention is made of the concept of Umwelt, its ideology is ever present explicitly or implicitly.⁶ The inquiry into man's relations to the vital environment, be it natural, social, or intellectual environment, was, perhaps, one of the main trends of thought of the Spanish philosopher.

Logically, this approach also led to some conclusions relevant to ethnology; we should avoid imposing our own world while treating that of the others! However trivial it may sound today, it was not so before the deployment of a broad critique of Eurocentrism in the study of cultures. The understanding of human culture achieved by ethnology implies that the 'savages' have 'a way to react to the surrounding cosmos which is quite different from our own but no less deserving respect' (Ortega y Gasset 1955, 3: 296).⁷

More specifically, the ethnological application of some of the views close to the Uexküll's ones was realized in Spain by Julio Caro Baroja (1914–1995). This renowned social anthropologist, the author of classical books on witches and on carnival, as well as of numerous works in the field of ethnography and social history, stood close to the British functionalist school in social anthropology. However, his own version of functionalism implied a particular ideological source, namely, the concept of 'functional cycles' developed by Uexküll. Ortega y Gasset, whose ideas considerably influenced Caro Baroja during his student years, certainly played a role in the acquaintance of the young anthropologist with the modern trends in biology, at least as initiator of the publication of Uexküll's works in Spanish, but probably more than this. Caro Baroja did not attend the lectures by Ortega — as he wrote, mainly due to some personal reasons.⁸ However, Baroja was, of course, aware of Ortega's ideas exposed in printed publications; and certainly he read the books issued by *Revista de Occidente*, whose mission was to give the Spanish public access to the writings of the most significant European authors (among them were the recent works by Spengler, Freud, Huizinga, etc.).

Julio Caro Baroja was among those thinkers for whom Uexküll's ideas turned out to be thought-provoking, and not only in his professional domain. As he wrote in his memoirs,

The ability to see is not among the most common ones in man. At least, the ability to see well. When I read the studies by Baron von Uexküll on the significative elements relevant to different classes of animals and when I contemplated the different systems of vision that, according to him, they have; when I realised that in a large field a certain kind of butterflies do not see but some spots, vaguely, on the one side, and on the other, quite distinctly, the plants which they use for eating or on which they can lay their eggs, I thought that if

applied to humans, this hypothesis might bring as result that where one man sees much, another one sees nothing, or sees, at the foreground, quite different things. (Caro Baroja 1972: 87)⁹

In his topical article about functionalism in ethnology and in historic research, Caro Baroja opposes evolutionism to synchronic study of morphology and notes that the establishment of the relations of form and function is an important aspect of research both in biology and ethnology, and possibly could also be useful for explanation in the field of history.¹⁰ Baroja examines the concept of function that was being widely used in social anthropology, and claims that two aspects of this notion are responsible for its meaning: first, function can be conceived as the practical meaning, the usefulness of the institutions and collective habits existing in a society; second, function can be understood as somewhat analogous to function in mathematics, which is to say that the cultural values are conceivable as being systematically dependent one on another. Then, looking for functional criteria that may be valid for ethnological and historic research, Baroja turns to functionality in biology: 'the functions can be observed in a society as they can be observed in an organism' (Caro Baroja 1990: 32).¹¹ He considers that the phenomena analogous to functional circles proposed by Uexküll are a kind of 'biological universals' relevant for humans in general. The cultures elaborate their own particular worlds, but always within the framework of these basic regularities.

However, the key problem does not consist in the universals, but rather in the explanation of the particular features that develop in different cultures in spite of the equality of natural conditions and biological imperatives acting upon them. That is why while treating functionality in anthropology, it would be erroneous to establish casual links between vital functions like those of functional circles and properly social functions.¹² The morphological study of culture has enabled anthropologists to propose another list of universals — not biological, but properly cultural ones — comprising universal cultural institutions, each of which provide a range of possibilities for particular realizations varying across cultures. It means that, as can we deduce from Baroja's reflections, we should distinguish several kinds of meaning in this or that institution or custom: the most superficial and not relevant to anthropology properly speaking is the correspondence to this or that biological universal; more anthropologically valid is the kind of observation that reveals in a custom or institution an instant of a cultural, not biological, universal intended to accomplish certain properly cultural functions. The cultural functions are by no means purely pragmatic: these

can even be contrary to an immediate adaptive necessity (the same was explicitly noted by Ortega).

It is not easy to say definitely whether the two examples briefly delineated above — that of Ortega y Gasset and that of Caro Baroja — are cases of direct influence by Uexküll's ideas, which seems more plausible for Ortega, or simply cases of the use of some of Uexküll's concepts as suitable arguments and illustrations; the latter appears to be true for Caro Baroja. Our conjectures can hardly embrace the whole of the circumstances that led to the formation of the theoretical stands of the two thinkers. However, these two examples at least give us some ground for speculation upon the receptive capacity of the Spanish culture, as well as on the potentialities of interpretation that the theory of Umwelt has outside biology.

Notes

1. The second edition was issued in 1934. Later there appeared another two books (Uexküll 1925, 1942) published by Revista de Occidente, a philosophical review and publishing house organized by Ortega y Gasset. In 1944, one more volume of Uexküll's works was published in Spain (Uexküll 1944).
2. 'Debo declarar que sobre mí han ejercido, desde 1913, gran influencia éstas meditaciones biológicas. Esta influencia no ha sido meramente científica, sino cordial. No conozco sugerencias más eficaces que las de este pensador para poner orden, serenidad y optimismo sobre el desarreglo del alma contemporánea'.
3. 'Todo órgano estable en la medida que es estable, con forma fija y funcionamiento predeterminado, tiene carácter de una máquina, y su uso, de una función mecánica'.
4. 'La pedagogía al uso se ocupa en adaptar nuestra vitalidad al medio; es decir, no se ocupa de nuestra vitalidad'. '... en vez de adaptar el hombre al medio, tiene que adaptar el medio al hombre; en lugar de apresurarse a convertimos en instrumentos eficaces para tales o cuales formas transitorias de la civilización, debe fomentar con desinterés y sin prejuicios el tono vital primigenio de nuestra personalidad'.
5. Cf., for instance: 'Life is, essentially, a dialogue with the environment; it is so in its most simple physiological functions, and in its most refined psychic functions as well. To live is to live together, to co-habit, and the Other who cohabits with us is the world around us' ['La vida es, esencialmente, un diálogo con el contorno: lo es en sus funciones fisiológicas más sencillas, como es en sus funciones psíquicas más sublimes. Vivir es convivir, y el otro que con nosotros convive es el mundo en derredor'] (Ortega y Gasset 1955, 3: 291).
6. Cf. chapters 9 and especially 10 of 'El tema de nuestro tiempo' ('The topic of our time'), the transcription of Ortega's course of lectures delivered in 1921–1922 and first published in 1923.
7. 'Una manera de responder al cosmos circundante muy distinta de la nuestra, pero no menos respetable'.
8. The uncle of Caro Baroja, the famous Spanish writer Pío Baroja, for some time had close relations with Ortega y Gasset, but their friendship was broken down due to an ideological controversy. Caro Baroja reminds that 'because of excessive shyness and

also because my uncle and he [Ortega] then were distancing one from the other I did not attend the lectures of Ortega' ['Por un exceso de pudor y también porque entonces estaban alejados mi tío y él no fui a las clases de Ortega'] (Caro Baroja 1972: 226).

9. 'La facultad de ver no es de las más comunes en el hombre. Al menos la de ver bien. Cuando leí los estudios de Baron von Uexküll sobre los elementos significativos para distintas clases de animales y contemplé los distintos sistemas de visión que tienen, según él; cuando me di cuenta de que en un gran campo, cierta clase de mariposas no ven más que manchas vagas de un lado y de otro las plantas que comen o en que pueden depositar sus huevos, bien destacadas, pensé que aplicada la hipótesis al hombre acaso daría como resultado que donde uno ve mucho, el otro no ve nada, o ve, resaltadas, cosas distintas' (Caro Baroja 1972: 87). He follows this passage with an observation that gives to the whole story a sarcastic note: 'For instance, I have always been shocked at the behaviour of many people of my acquaintance, and not from the poorly educated ones, who can come to a new and curious place without looking at the walls, without paying attention to the pictures, to the objects of various kinds. So, they speak, then, about their own things, repeatedly, and leave the place'. ['Siempre me ha chocado, por ejemplo, como bastante gente que he conocido, y no de la inculta, puede llegar a un sitio nuevo y curioso sin mirar a las paredes, sin fijarse en los cuadros y en los objetos de distintas clases. Hablan luego de lo suyo, con reiteración, y se van'.]
10. First appeared as *La investigación histórica y los métodos de la etnología (morfología y funcionalismo)*, Revista de Estudios Políticos, no. 80 (March 1955), 61–82. We will refer to the publication of this article in Caro Baroja (1990).
11. 'Las funciones pueden observarse en una sociedad como pueden observarse en el organismo'.
12. This claim is a part of Baroja's criticism addressed to the version of anthropological functionalism advanced by Bronislaw Malinowski. Baroja regards it as 'a very short-range utilitarian doctrine which proves to be useless not only to investigate the "why", but also to determine precisely the "how" of life that is unravelling in a given society with its particular traits, this society being contrasted to another one, under precisely the same "biological universals", but having different particular traits' ['doctrina utilitaria de muy cortos vuelos, que no sólo resulta inútil para investigar el "porque", sino también para precisar el "cómo" se desenvuelve la vida en una sociedad dada, con sus caracteres propios frente a otra, sometida precisamente a los mismos "universales biológicos", pero con caracteres distintos'] (Caro Baroja 1990: 35).

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Norbert Wiener launches cybernetics

Mathematician Norbert Wiener introduced the term 'cybernetics' to designate the study of 'control in the machine'. Wiener had studied the work of Norbert Wiener and John von Neumann (Wiener 1948: 13), but his interest was in the study of linear systems. For this there was to develop anti-aircraft techniques in neurophysiology and general biology (Rosenblueth et al. 1943). Wiener v

The present age is truly the age of science. It was the age of the steam engine or the electric clock. — To sum up: the many automatic actions of the outside world both for the reception and the execution of actions. They contain sense organs, and a nervous system to integrate the transfer of information. They lend themselves very well to description by mathematical physiology. (1948: 43)

Wiener came from mathematics and sought a mathematical explanation of functions of human behavior. The converse, but not opposite, of the functions of living organisms. There are certain reservations expressed by Wiener, which were already much earlier. Jakob von U

Early ideas of cybernetics in biology

The health-restoring forces inherent in nature have been known in antiquity as *vis medicatrix naturae*.

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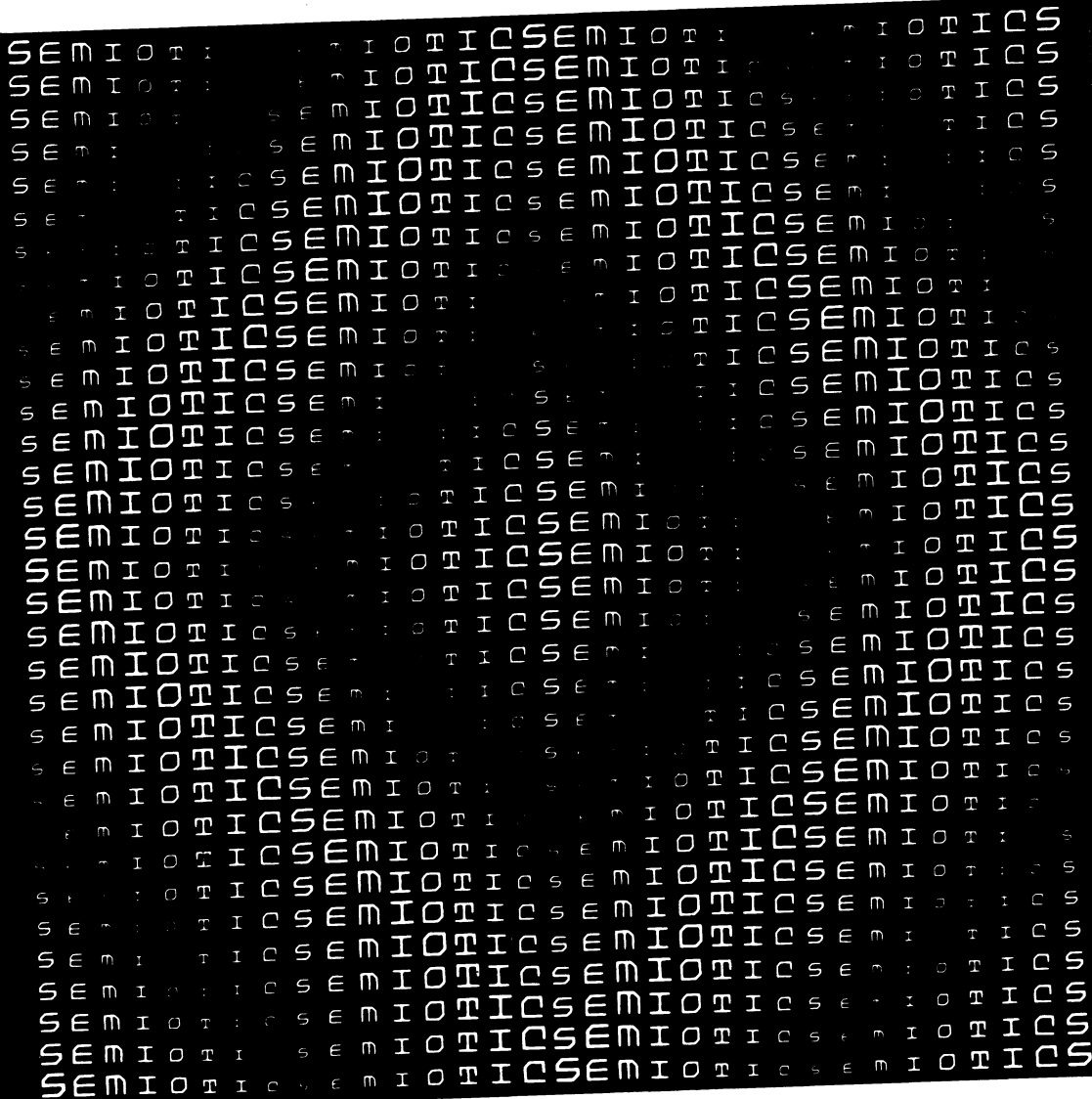
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