

Mimicry and Legendary Psychasthenia

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*Beware: whoever pretends to be a
ghost will eventually turn into one.*

From whatever side one approaches things, the ultimate problem turns out in the final analysis to be that of distinction: distinctions between the real and the imaginary, between waking and sleeping, between ignorance and knowledge, etc. -- all of them, in short, distinctions in which valid consideration must demonstrate a keen awareness and the demand for resolution. Among distinctions, there is assuredly none more clear-cut than that between the organism and its surroundings; at least there is none in which the tangible experience of separation is more immediate. So it is worthwhile to observe the phenomenon with particular attention and, within the phenomenon, what is even more necessary, given the present state of our knowledge, is to consider its condition as pathology (the word here having only a statistical meaning)--i.e., all the facts that come under the heading of mimicry.

For some time now, for various and often undesirable reasons, these facts have been the object of those biologists with a heavy predilection for ulterior motives: some dream of proving metamorphosis, which, fortunately for that phenomenon, rests on other foundations, others, the clear-sighted providence of the famous God whose bounty extends over the whole of nature.

Under these conditions, a strict method is essential. First of all, it is important to list these phenomena very rigorously, for experience has shown that there are too many bad explanations pushing them toward confusion. It is also not a bad idea to adopt as much as possible a classification that relates to facts and not to their interpretation, since the latter threatens to be misleading, and is moreover controversial in almost every case. Girard's categories will thus be mentioned, but not retained. Neither the first: offensive mimicry designed to surprise the prey, defensive mimicry designed either to escape the sight of the aggressor (mimicry of dissimulation) or to frighten it away by a deceptive appearance (mimicry of terrification); nor the second: direct mimicry when it is in the immediate interests of the imitating animal to take on the disguise, indirect mimicry when animals belonging to different species, following a common adaptation, a convergence, in some way show "professional resemblances."

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It has been assumed that, in order to protect itself, an inoffensive animal took on the appearance of a forbidding one: for example, the butterfly *Trochilium* and the wasp *Vespa Crabro*- the same smoky wings, the same brown legs and antennae, the same black and yellow striped abdomen and thorax, the same vigorous and noisy flight in broad daylight. Sometimes the imitative creature goes further, like the caterpillar of *Choerocampa Elpenor*, which on its fourth and fifth segments has two eye-shaped spots outlined in black: when it is alarmed, its front segments retract and the fourth swells considerably, achieving the effect of a snake's head capable of deceiving lizards and small birds, which are frightened by this sudden apparition. According to Weismann, when the *Smerinthus ocellata*, which like all hawk moths conceals its hind wings when at rest, is in

danger, it exposes them abruptly with their two large blue "eyes" on a red background, giving the aggressor a sudden fright.

The butterfly, wings spread, thus becomes the head of a huge bird of prey. The clearest example of this kind is surely that of the *Caligo* butterfly in the jungles of Brazil, described by Vignon as follows: "There is a bright spot surrounded by a palpebral circle, then by circular and overlapping rows of small radial feathery strokes of variegated appearance, imitating to perfection the plumage of an owl, while the body of the butterfly corresponds to the beak of the same bird." The resemblance is so striking that the natives of Brazil affix it to the doors of their barns as a replacement for the creature it imitates.

It is only too obvious that in the previous cases anthropomorphism plays a decisive role: the resemblance is all in the eye of the beholder. The objective fact is fascination, as is shown especially by *Smerinthus ocellata*, which does not resemble anything frightening. Only the eye-shaped spots play a role. The behavior of the Brazilian natives only confirms this proposition: the "eyes" of the *Caligo* should probably be compared to the apotropaic *Oculus indiviosus*, the evil eye that can not only harm but protect, if one turns it back against the evil powers to which, as an organ of fascination par excellence, it naturally belongs.

Here the anthropomorphic argument does not apply, since the eye is the vehicle of fascination in the whole animal kingdom. It is, on the other hand, decisive for the biased declaration of resemblance: besides, even from the human point of view, none of the resemblances in this group of facts is absolutely conclusive.

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For the adaptation of form to form (homomorphy), there is no lack of examples: box crabs resemble rounded pebbles; *chlamydes*, seeds; *moenas*, gravel; prawns, fucus; the fish *Phyllopteryx*, from the Sargasso Sea, is simply "torn seaweed in the shape of floating strands," like the *Antennarius* and the *Pterophrynx*. The octopus retracts its tentacles, curves its back, adapts its color, and thus comes to resemble a stone. The green and white hind wings of the *Aurora Pierid* simulate *umbelliferae*; the bumps, knots, and streaks of symbiotic lichens make them identical with the bark of the poplars on which they grow.

One cannot distinguish *Lithnius nigrocristinus* of Madagascar and *Flatoids* from lichens. We know how far the mimicry of mantises can go: their legs simulate petals or are curved into corollas and resemble flowers, imitating by a slight instinctive swaying the action of the wind on these latter. The *Cilix compressa* resembles bird droppings; the *Cerodeylus laceratus* of Borneo with its leafy excrescences, light olive-green in color, a stick covered with moss. Everyone knows the *Phyllia*, or leaf insects, so similar to leaves, from which it is only a step to the perfect homomorphy represented by certain butterflies: first the *Oxydia*, which places itself at the end of a branch at right angles to its direction, the front wings held in such a position as to present the appearance of a terminal leaf, an appearance accentuated by a thin dark line extending crosswise over the four wings in such a way as to simulate the leaf's principal veins.

Other species are even more improved, their hind wings being furnished with a slender appendage that they use as a petiole, acquiring by this means "a sort of insertion into the plant world." The combination of the two wings on each side represents the lanceolate oval characteristic of the leaf: here, too, a spot, but longitudinal this time, continuing from one wing onto the other, replaces the middle vein; thus "the vital organic force.. .has had to shape and cleverly organize each of the wings since it thereby achieves a fixed form, not in itself, but by its union with the other wing."

These are chiefly the *Coenophlebia Archidona* of Central America and the various kinds of *Kallima* in India and Malaysia, the latter deserving further study. The lower side of their wings reproduces, following the pattern indicated above, the leaf of the *Nephelium*

Longane where they prefer to alight. Furthermore, according to a naturalist employed in Java by the London firm of Kirby and Co. for the trade in these butterflies, each of the different varieties of *Kallima* (*K. Inachis*, *K. Parallecta*, etc.) frequents a specific kind of bush that it most particularly resembles. Among these butterflies, imitation is pushed to the smallest details: indeed, the wings bear gray-green spots simulating the mold of lichens and glistening surfaces that give them the look of torn and perforated leaves: "including spots of mold of the sphaeriaceous kind that stud the leaves of these plants; everything, including the transparent scars produced by phytophagic insects when, devouring the parenchyma of the leaves in places, they leave only the translucid skin. Imitations are produced by pearly spots that correspond to similar spots on the upper surface of the wings."

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These extreme examples have given rise to numerous attempts at explanation, none of them truly satisfactory.

Even the mechanism of the phenomenon is unclear. One can certainly observe with E.-L. Bouvier that mimetic species depart from the normal type by the addition of ornaments: "lateral expansions of the body and appendages in *Phyllia*, modelling of the front wings in *Flatoids*, development of tuberosities in the larva of many geometer moths, etc" But this is a singular abuse of the word ornament, and above all it is more an observation than an explanation. The notion of preadaptation (insects seeking out milieux that match their dominant shade of colour or adjusting to the object they most resemble) is insufficient on its side in the face of equally precise phenomena. More insufficient still is the recourse to chance, even in Cuénot's subtle fashion. He attaches himself in the beginning to the case of certain *Phyllia* of Java and Ceylon (*Ph. siccifolium* and *Ph. pulchrifolium*) that live by preference on the leaves of the guava tree, which they resemble by the subterminal constriction of their abdomens. The guava, however, is not an indigenous plant but has been imported from America.

So if similarity exists in this example, it is fortuitous. Without being disturbed by the exceptional (not to say unique) nature of this fact, Cuénot goes on to say that the similarity of the *Kallima* butterfly is no less the result of chance, being produced by the simple accumulation of factors (appendage in the shape of a petiole, lanceolate front wings, middle veining, transparent and mirror areas) that are found separately in nonmimetic species and are there unremarkable: "resemblance is therefore obtained by the sum of a certain number of small details, each of which has nothing exceptional about it and can be found isolated in neighbouring species, but whose combination produces an extraordinary imitation of a dry leaf, more or less successful depending on individuals, which quite notably differ among themselves It is one combination like any other, astonishing because of its resemblance to an object."

Likewise, according to this author, the *Urapteryx samqucaria* caterpillar is one combination like any other of a characteristic attitude, a certain skin colour, tegumentary rough spots, and the instinct to live on certain plants. But properly speaking, it is hard to believe that we are dealing here with combinations like any other, since all these details can be brought together without being joined, without their contributing to some resemblance: it is not the presence of the elements that is perplexing and decisive, it is their mutual organization, their reciprocal topography.

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Better to adopt under these conditions a shaky hypothesis that could be drawn from a remark by Le Dantec, according to which there may have been in the ancestors of the

Kallima a set of cutaneous organs permitting the simulation of the imperfections of leaves, the imitating mechanism having disappeared once the morphological character was acquired (that is to say, in the present case, once the resemblance was achieved) in accordance with Lamarck's very law. Morphological mimicry could then be, after the fashion of chromatic mimicry, an actual photography, but of the form and the relief, a photography on the level of the object and not on that of the image, a reproduction in three-dimensional space with solids and voids: sculpture-photography or better teleplasty, if one strips the word of any metapsychical content.

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There are reasons more immediate, and at the same time less to be suspected of sophistry, that keep mimicry from being taken for a defense reaction. First of all, it would only apply to carnivores that hunt by sight and not by smell as is often the case. Carnivores, moreover, do not generally bother with motionless prey: immobility would thus be a better defense, and indeed insects are exceedingly prone to employ a false corpseslike rigidity.

There are other means: a butterfly, in order to make itself invisible, may do nothing more than use the tactics of the *Satyride asiatique*, whose flattened wings in repose appear simply as a line almost without thickness, imperceptible, perpendicular to the flower where it has alighted, and which turns simultaneously with the observer so that it is only this minimum surface that is always seen. The experiments of Judd and Foucher have definitely resolved the question: predators are not at all fooled by homomorphy or homochromy: they eat crickets that mingle with the foliage of oak trees or weevils that resemble small stones, completely invisible to man. The phasma *Carausius Morosus*, which by its form, color, and attitude simulates a plant twig, cannot emerge into the open air without being immediately discovered and dined on by sparrows. Generally speaking, one finds many remains of mimetic insects in the stomachs of predators. So it should come as no surprise that such insects sometimes have other and more effective ways to protect themselves. Conversely, some species that are inedible, and would thus have nothing to fear, are also mimetic. It therefore seems that one ought to conclude with Cuénot that this is an "epiphenomenon" whose "defensive utility appears to be nul." Delage and Goldsmith had already pointed out in the *Kallima* an "exaggeration of precautions."

We are thus dealing with a luxury and even a dangerous luxury, for there are cases in which mimicry causes the creature to go from bad to worse: geometer-moth caterpillars simulate shoots of shrubbery so well that gardeners cut them with their pruning shears. The case of the *Phyllia* is even sadder: they browse among themselves, taking each other for real leaves, in such a way that one might accept the idea of a sort of collective masochism leading to mutual homophagy, the simulation of the leaf being a provocation to cannibalism in this kind of totem feast.

This interpretation is not so gratuitous as it sounds: indeed, there seem to exist in man psychological potentialities strangely corresponding to these facts. Even putting aside the problem of totemism, which is surely too risky to approach from this point of view, there remains the huge realm of sympathetic magic, according to which like produces like and upon which all incantational practice is more or less based. There is no need to reproduce the facts here: they can be found listed and classified in the classic works of Tylor, Hubert and Mauss, and Frazer. One point, however, needs to be made, the correspondence, fortunately brought to light by these authors, between the principles of magic and those of the association of ideas: to the law of magic -- things that have once been in contact remain united--corresponds association by contiguity, just as association by resemblance corresponds quite precisely to the *attractio sireillum* of magic: like produces like.

Hence the same governing principles: here the subjective association of ideas, there the objective association of facts; here the fortuitous or supposedly fortuitous connections of ideas, there the causal connections of phenomena.

The point is that there remains in the "primitive" an overwhelming tendency to imitate, combined with a belief in the efficacy of this imitation, a tendency still quite strong in "civilized" man, since in him it continues to be one of the two conditions for the progress of his untrammelled thought. So as not to complicate the problem unnecessarily, I leave aside the general question of resemblance, which is far from being clear and plays a sometimes decisive role in affectivity and, under the name of correspondence, in aesthetics.

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This tendency, whose universality thus becomes difficult to deny, may have been the determining force responsible for the present morphology of mimetic insects, at a time when their organisms were more plastic than they are today, as one must suppose in any case given the fact of transformation. Mimicry would thus be accurately defined as an incantation fixed at its culminating point and having caught the sorcerer in his own trap. No one should say it is nonsense to attribute magic to insects: the fresh application of the words ought not to hide the profound simplicity of the thing. What else but prestigious magic and fascination can the phenomena be called that have been unanimously classified precisely under the name of mimicry (incorrectly as I see it, one will recall, for in my opinion the perceived resemblances are too reducible in this case to anthropomorphism, but there is no doubt that once rid of these questionable additions and reduced to the essential, these facts are similar at least in their origins to those of true mimicry), phenomena some of which I have reported above (the examples of the *Smerinthus ocellata*, the *Caligo*, and the *Choerocampa Elpenor* caterpillar), and of which the sudden exhibition of ocelli by the mantis in a spectral attitude, when it is a matter of paralyzing its prey, is by no means of the least?

Recourse to the magical tendency in the search for the similar can only, however, be an initial approximation, and it is advisable to take account of it in its turn. The search for the similar would seem to be a means, if not an intermediate stage. Indeed, the end would appear to be assimilation to the surroundings. Here instinct completes morphology: the *Kallima* places itself symmetrically on a real leaf, the appendage on its hind wings in the place that a real petiole would occupy; the *Oxydia* alights at right angles to the end of a branch because the arrangement of the spot representing the middle veining requires it; the *Clolia*, Brazilian butterflies, position themselves in a row on small stalks in such a way as to represent bell flowers, in the manner of a sprig of lily of the valley, for example.

It is thus a real temptation by space.

Other phenomena, moreover, such as so-called "protective coverings," contribute to the same end. The larvae of mayflies fashion a sheath for themselves with twigs and gravel, those of Chrysomelidae with their excrements. Oxyrrhyncha or spider crabs haphazardly gather and collect on their shells the seaweed and polyps of the milieu in which they live, and "the disguise seems like an act of pure automatism," since they deck themselves in whatever is offered to them, including some of the most conspicuous elements (experiments by Hermann Fol, 1886). Furthermore, this behaviour depends on vision, since it neither takes place at night nor after the removal of the ocular peduncles (experiments by Aurivillius, 1889), which shows once again that what is involved is a disturbance in the perception of space.

In short, from the moment when it can no longer be a process of defense, mimicry can be nothing else but this. Besides, there can be no doubt that the perception of space is a complex phenomenon: space is indissolubly perceived and represented. From this

standpoint, it is a double dihedral changing at every moment in size and position: a dihedral of action whose horizontal plane is formed by the ground and the vertical plane by the man himself who walks and who, by this fact, carries the dihedral along with him; and a dihedral of representation determined by the same horizontal plane as the previous one (but represented and not perceived) intersected vertically at the distance where the object appears. It is with represented space that the drama becomes specific, since the living creature, the organism, is no longer the origin of the coordinates, but one point among others; it is dispossessed of its privilege and literally no longer knows where to place itself. One can already recognize the characteristic scientific attitudes and, indeed, it is remarkable that represented spaces are just what is multiplied by contemporary science: Finsler's spaces, Fermat's spaces, Riemann-Christoffel's hyper-space, abstract, generalized, open, and closed spaces, spaces dense in themselves, thinned out, and so on. The feeling of personality, considered as the organism's feeling of distinction from its surroundings, of the connection between consciousness and a particular point in space, cannot fail under these conditions to be seriously undermined; one then enters into the psychology of psychasthenia, and more specifically of legendary psychasthenia, if we agree to use this name for the disturbance in the above relations between personality and space.

Here it is possible to give only a rough summary of what is involved, and Pierre Janet's theoretical and clinical writings are moreover available to everyone. I will, however, briefly describe some personal experiences, but which are wholly in accord with observations published in the medical literature, for example with the invariable response of schizophrenics to the question: where are you? I know where I am, but I do not feel as though I'm at the spot where I find myself. To these dispossessed souls, space seems to be a devouring force. Space pursues them, encircles them, digests them in a gigantic phagocytosis. It ends by replacing them. Then the body separates itself from thought, the individual breaks the boundary of his skin and occupies the other side of his senses. He tries to look at himself from any point whatever in space. He feels himself becoming space, dark space where things cannot be put. He is similar, not similar to something, but just similar. And he invents spaces of which he is "the convulsive possession."

All these expressions shed light on a single process: depersonalization by assimilation to space, i.e., what mimicry achieves morphologically in certain animal species. The magical hold (one can truly call it so without doing violence to the language) of night and obscurity, the fear of the dark, probably also has its roots in the peril in which it puts the opposition between the organism and the milieu. Minkowski's analyses are invaluable here: darkness is not the mere absence of light; there is something positive about it. While light space is eliminated by the materiality of objects, darkness is "filled," it touches the individual directly, envelops him, penetrates him, and even passes through him: hence "the ego is permeable for darkness while it is not so for light"; the feeling of mystery that one experiences at night would not come from anything else. Minkowski likewise comes to speak of dark space and almost of a lack of distinction between the milieu and the organism: "Dark space envelops me on all sides and penetrates me much deeper than light space, the distinction between inside and outside and consequently the sense organs as well, insofar as they are designed for external perception, here play only a totally modest role." This assimilation to space is necessarily accompanied by a decline in the feeling of personality and life. It should be noted in any case that in mimetic species the phenomenon is never carried out except in a single direction: the animal mimics the plant, leaf, flower, or thorn, and disassembles or ceases to perform its functions in relation to others. Life takes a step backwards. Sometimes assimilation does not stop at the surface: the eggs of phasmas resemble seeds not only by their form and colour, but also by their internal biological structure. On the other hand, cataleptic attitudes often aid the insect in its entry into another realm: the immobility of weevils, while bacilliform Phasmida let their

long legs hang, and not to mention the rigidity of geometer-moth caterpillars standing bolt upright, which cannot fail to suggest hysterical contraction. On the other hand, is not the automatic swaying of mantises comparable to a tic?

Among others in literature, Gustave Flaubert seems to have understood the meaning of the phenomenon, when he ends *The Temptation of Saint Anthony* with a general spectacle of mimicry to which the hermit succumbs: "plants are now no longer distinguished from animals Insects identical with rose petals adorn a bush And then plants are confused with stones. Rocks look like brains, stalactites like breasts, veins of iron like tapestries adorned with figures." In thus seeing the three realms of nature merging into each other, Anthony in his turn suffers the lure of material space: he wants to split himself thoroughly, to be in everything, "to penetrate each atom, to descend to the bottom of matter, to be matter." The emphasis is surely placed on the pantheistic and even overwhelming aspect of this descent into hell, but this in no way lessens its appearance here as a form of the process of the generalisation of space at the expense of the individual, unless one were to employ a psychoanalytic vocabulary and speak of reintegration with original insensibility and prenatal unconsciousness: a contradiction in terms.

One does not need to look far to find supporting examples in art: hence the extraordinary motifs of Slovak popular decoration, which are such that one does not know whether it is a question of flowers with wings or of birds with petals; hence the pictures painted by Salvador Dalí around 1930, in which, whatever the artist may say, these invisible men, sleeping women, horses, and lions are less the expression of ambiguities or of paranoiac "plurivocities" than of mimetic assimilations of the animate to the inanimate.

Beyond doubt some of the above developments are far from offering any guarantee from the standpoint of certainty. It may even seem questionable to compare such diverse realities as homomorphy and the external morphology of certain insects, sympathetic magic and the concrete behaviour of people of a certain type of civilization and perhaps a certain type of thought, and finally psychasthenia and the psychological postulations of people belonging, from these points of view, to opposite types. Such comparisons, however, seem to me not only legitimate (just as it is impossible to condemn comparative biology) but even indispensable as soon as we approach the obscure realm of unconscious determinations. Besides, the solution proposed contains nothing that should give rise to suspicions of dogmatism: it merely suggests that alongside the instinct of self-preservation, which in some way orients the creature toward life, there is generally speaking a sort of instinct of renunciation that orients it toward a mode of reduced existence, which in the end would no longer know either consciousness or feeling--the inertia of the *élan vital*, so to speak.

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It is on this level that it can be gratifying to give a common root to phenomena of mimicry both biological and magical and to psychasthenic experience, since the facts seem so well to impose one on them: this attraction by space, as elementary and mechanical as are tropisms, and by the effect of which life seems to lose ground, blurring in its retreat the frontier between the organism and the milieu and expanding to the same degree the limits within which, according to Pythagoras, we are allowed to know, as we should, that nature is everywhere the same.