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Camouflage, zoomorphism, and the origins of image-making

Introduction

In my paper I will consider camouflage as a possible primary source for image-making and the creation of social worlds in and through the use of such images. In camouflage, I will argue, we find competences at work that are essential for image making and interaction by means of them: the ability to create and display forms that refer to something else, and to recognize shapes as such, for instance. Animal camouflage also shares important functions and features with man-made images: that of visual persuasion for instance, closely connected to the dynamics of display, and it raises interesting questions about the relation between competence and comprehension.

The arthistorical literature on camouflage is limited to the emergence of camouflage as a military phenomenon in the decades preceding the first World War and to connections between camouflage design and artists such as Picasso. In zoology the focus has been on the role of camouflage as a testcase for evolutionary theory. Yet the French surrealist and cultural historian of biology Roger Caillois already argued in *Le mimétisme animal* of 1961 that the Darwinist approach to camouflage, studying it exclusively as a means to survival, is too limited because many camouflage strategies turn out on closer inspection to be ineffective. Instead, he proposed to consider camouflage as part of a much wider category of animal behaviour, which he called animal mimetism, and which has at least three functions: to frighten or mislead predators, to mask, and to adorn.¹ But apart from the growing research on the camouflage behaviour of the octopus, and the wider image-making capacities and

1 Caillois 1961, 49.

aesthetic sensibility of birds such as the bowerbird, the striking similarities between animal mimetism and human image-making have hardly been studied.²

One possible way of investigating whether any relations exist between camouflage and human image-making would be evolutionary: to consider whether any continuities can be found between the behaviour of primates and humans, or between early human and animal camouflage, and to search for evidence in prehistoric images and other vestiges of behaviour. This is an ongoing collection of evidence, but it is not the main focus of my paper. Nor will I pursue the evolutionist focus on camouflage as the laboratory where survival of the fittest can best be observed. Instead I will concentrate on two of the earliest theories on camouflage and the way they conceive its relations to image-making: those of Alfred Wallace and Charles Darwin, as well as the architect and architectural theorist Gottfried Semper, because they formulated some hypotheses about camouflage as social behaviour and the points of contact between animal camouflage and the earliest stages of human material culture that offer productive starting points for an exploration of the relation between animal camouflage and human image-making. Starting from Darwin and Semper I will consider whether we could indeed develop a reading of the earliest stages of human culture in which camouflage, tatouage and masking can be linked as primary sources of image-making.

But before we proceed, let us pause a moment for a few definitions and clarifications, and some historical background. First of all, when comparing and sometimes contrasting animal camouflage and human image-making I do not assume that we can make fundamental distinctions, rooted in biological differences, between animals and humans, such as the opposition between instinct and culture. Instead I believe animals and humans share many dimensions. Also, as Philippe Descola has argued recently, the definition of relations between humans and animals is a cultural configuration which has many varieties.³ The *phenomenon* of camouflage was already noted by Aristotle and Philostratus, both in animal and human behaviour.⁴ In art there is the Anglo-Saxon tradition of depicting animals as if camouflaged in abstract patterns of crosses and lattices, for instance in the Sutton Hoo gold belt-buckle of the 7th century CE (**Fig. 1**). In the 17th-century the Dutch art theorist Franciscus Junius gave an interesting list of art works produced by nature: “Nature itself is a prolific creator of art works, as can be seen in the beauty of flowers, the feathers of peacocks and the spots of leopards.”⁵

2 Rothenberg 2013, 61–102.

3 Descola 2005, 19–58.

4 Aristotle, *Historia animalium* 9, 622a, 2–10.

5 Junius 1637, 2, 1, 3.



Fig. 1: Sutton Hoo gold belt-buckle, hollow with cast ornament, Anglo-Saxon, 7th century CE. London, British Museum (Photo: British Museum).

The term *camouflage* is a recent one, first attested in the 1880s in French and subsequently in English. It is ultimately derived from the noun ‘camouflet’, first documented in 1611, in the sense of blowing smoke into somebody’s eyes. French camouflage has origins in the theatre, which are completely under-researched. There is for instance a tradition in 18th-century acting theory to compare the capacity to act convincingly to the adaptive behavior of the chameleon. Such mimetic behavior in animals was often cited by naturalists in the early 19th-century as an argument in favour of the existence of God, the ultimate benign watchmaker, and against Darwin’s dangerous ideas.⁶

Its history outside biology really starts when in World War I camouflage was developed as a military strategy, first in the French *corps des camoufleurs* led by L.-V. Guéraud de Scévola.⁷ Because of the obvious formal similarities between warship camouflage and Cubist painting, noted for instance by Picasso, this part of the history of camouflage has received most arthistorical attention. The key figure is the American painter Abbott Thayer, a student of Jean-Léon Gérôme, who specialized as an animal and landscape painter and developed a theory and method of what he called dazzle painting, based on the principles of camouflage in nature: making the underside of animals lighter than their backs, and creating patterns that break up surfaces and enable their visual integration with their surroundings (**Fig. 2**).⁸

6 For discussions of camouflage before Darwin see also Boulard 1996, 2961–2963.

7 Forbes 2011, 104; Guiraud de Scévola 1950, 719–720.

8 Cao 2016, 486–511.



Fig. 2: Abbott H. Thayer and R. S. Meryman, *Male Wood Duck in a Forest Pool*, study for the book *Concealing Coloration in the Animal Kingdom*, oil on canvas, 1907, Washington, Smithsonian Institution (Photo: Smithsonian Institution).

Whereas camouflage is generally taken by biologists to refer to an animal taking on the protective resemblance of its non-animate surroundings, mimicry refers to adopting the behavior and appearance of another animal instead of its physical environment.⁹ Mimicry according to the *Oxford English Dictionary* was first attested in 1637: “the art of depicting character by mimetic gestures”, derived from the Greek *ethologia*, the understanding of character as displayed in behavior. In 1817 it was

9 Evans 1965, 211–220.



Fig. 3: Caligo Prometheus or Owl Butterfly (Photo: Peter Trimming, Croydon/Wikimedia Commons).

first used in biology.¹⁰ Mimicry posed a large problem to evolutionary biologists: how do creatures produce offspring which are like themselves but different in subtly visual ways?

Another important distinction is that between the *forms* of camouflage and camouflage *strategies*, or between the formal vocabulary, so to speak, adopted in protective adaptation, versus camouflage as *behavior*; and finally to distinguish camouflage as a social condition.¹¹ When the full range of camouflage and mimicry are taken into consideration, they occur across the entire spectrum of animal behavior, including humans. Animals practice it, but so do humans, in their dress and actions, but also in a psychological and emotional sense: we can camouflage desires, defects, fears and personality traits. Dresses can look like wallpaper or tapestry, and the fleeing animal takes on the stripes and patterns of its environment.

¹⁰ Kirby – Spence 1818, 223.

¹¹ Cott 1940, 435–438; Cao 2016, 489.



Fig. 4: Gecko hiding in tree (Photo: Frans de Waal).

Camouflage and human image-making: some similarities

But why would we think at all about possible relations between human art, or even image-making, and animal camouflage? Perhaps the most important reason to consider this is that in the realm of actual, real living beings, camouflage is the largest, most varied, and possibly oldest producer of visual representations. Humans share these mimetic powers with other animals, from insects and invertebrates to mammals that are closer to us in evolutionary terms. When a butterfly sports wings that show eyes, or a gecko takes on the patterning of their surroundings, they create images: they imitate the shapes and defining characteristics of other animals or of an environment that gives them safety (**Figs. 3 and 4**). These images or shapes are made to look lifelike, and have a semiotic intent, because they are meant to be inter-



Fig. 5: *Xenophora Pellidula* Reeve, from R. Caillois, *Le Mimétisme Animal* (Paris: Hachette 1961, 56).

preted by potential predators in a way that deflects attention from the prey. Sometimes this leads to formal similarities that are as striking as they are fortuitous, as in this juxtaposition of a crab hiding under a mass of disparate objects but still showing its claws, with the Borghese Altar now in the Louvre (**Figs. 5 and 6**).



Fig. 6: Borghese altar, 2nd century AD, Roman, Paris, Louvre (Photo: author).

Once one starts looking for it, camouflage is everywhere in art. It is one of the functions of many works of decorative art, such as tapestries or wall papers or boise-

ries, which are made to hide defects or protect vulnerable surfaces. Animal features are often used to make an artefact look frightening, as in harnesses, weaponry, or the masks and macarons used on façades. It can be used to appropriate psychological or moral traits, or to hide them; or to suggest presence, life and watchful consciousness, as in fur capes making their wearers look like a predatory animal; or to appropriate animal fascinating powers by using peacock feathers in dresses and hats.

Camouflage and other kinds of adaptive behavior in evolutionary theory

Apart from the interest in cameleons, mimicry, or protective colouring by natural theologians as evidence for the argument from design for God's existence, camouflage really became a central issue in the life sciences as a result of the joint discovery by Wallace and Darwin in the 1850s of adaptive behaviour as a means of survival.¹² In biology it quickly became one of the central testing grounds for evolution theory, because it is here that one could observe, in nature, how the adaptation of species to their environment evolved, and how exactly the fittest survived. It also from the outset posed two major problems. First, how to account for the enormous variety of protective adaptation on show in nature. This was a problem because, as the biologist Richard Swann Lull put it in 1917: "We cannot conceive of selection taking an adaptation past the point of efficacy".¹³ Second, how do creatures produce offspring which are like themselves but different in subtly visual ways? This would only be solved in the 1960s and 70s when evolutionary biology and genomics met, and a genetic account of the development and persistence of camouflage over successive generations of an animal species could be developed and tested.¹⁴

The relation between animal camouflage and human image-making is singularly under-researched, but there are two major nineteenth-century exceptions who both offer at least some starting points for understanding this relation: the ethnologist Alfred Wallace's work on camouflage and the architect and theorist Gottfried Semper's work on the origins of human material culture and art. Wallace, as is well known, spent much of his life studying camouflage and mimicry behaviour among insects in Amazonia, coming very close to being the discoverer of evolution theory. In a long review essay of various studies of camouflage and mimicry, called *Mimicry and other Protective Resemblances among Animals* published in 1867 in the *Westminster Review* he sets out the state-of-the-art view of camouflage, its role in the adaptation and survival of species, and the problems still unsolved. Some wonderful

¹² Blaisdell 1982.

¹³ Quoted in Forbes 2011, 50.

¹⁴ Forbes 2011, 197–207.

examples are cited, such as the Kallima butterfly in India and Malaysia, whose protective resemblance to its environment is so sophisticated, that its wings do not just resemble the leaves, bark and shrubs of its habitat, but also display “powdery black dots” that resemble the fungi on these leaves, thus representing, as Wallace puts it, leaves in every state of decay.¹⁵ Such protective resemblance consists not only of a repertoire of forms, shapes, and sizes, texture and colour of skin surfaces, but also of behaviour and habits. Together they produce disguises that are almost perfect, given the large number of insects that possess them. Wallace also notes that such resemblances should be taken in a metaphorical sense: it is not conscious, intentional imitation, but a patterning and shaping of external appearance that occurs in particular among animals that multiply rapidly, with incessant slight variations, resulting in successful adaptation and hence survival.

At the same time, Wallace introduces a gradual shift from camouflage as a feature of the external appearance of animals, to a variety of behaviour: animals often do not look like their habitat, but start to behave like other animals, who are less attractive to their predators, while being quite conspicuous at the same time: “They appear like actors or masqueraders dressed up and painted for amusement, or like swindlers endeavouring to pass themselves off for well-known or respectable members of society”.¹⁶ We here enter the domain of the theatre and the masquerade, where Semper will shortly take us as well. But there is one last major point made by Wallace to take into consideration: that there is no radical division between animal and human capacities in creating camouflage and being fooled by it, that is in the capacity to display shapes that look like something else, and to see a shape as a sign for something else – in short, what we would now call animal and human abilities to make something into a sign, and interpret it as such, or *semiosis*:

For it is evident that if colours which please us also attract them [animals], and if the various disguises which have been enumerated are equally deceptive to them as to ourselves, then both their powers of vision and their faculties of perception and emotion must be essentially of the same nature as our own – a fact of high philosophical importance in the study of our own nature and our own relation to the lower animals.¹⁷

In these few sentences the entire research program of the emergence of the human mind as we know it is implied, which the recent work of evolutionary psychologists and neurologists like Ramachandran or Zeki have begun to explore.

¹⁵ Wallace 1867, 9.

¹⁶ Wallace 1867, 40.

¹⁷ Wallace 1867, 42.

Gottfried Semper is the second main nineteenth-century theorist of camouflage. His starting-point was not the animal kingdom, but the emergence of human material culture from the four basic crafts of weaving, ceramics, carpentry and masonry, and their subsequent representations in different materials. We need not go into the details of his theory here, but what we do need, is his argument that all human art, as opposed to mere artefacts, is based on acts of dressing and masking. And although he rarely mentions Darwin, because he did not think his evolutionary history could be applied to the arts in a productive way, nor did he use the term camouflage, it is evident that much of his theory of art revolves around the notion of taking on the appearance of something else, to make artefacts more durable, more meaningful, and more successful as a way of coping with the challenges of life.

The origin and essence of architecture is not construction but the visible representation of enclosed space, which in its earliest form took the shape of the partition, pen or fence made of plaited or interwoven sticks and branches. It is thus intimately linked with weaving or textile, one of the four primitive crafts that can be found all over the world, and which form the cradle of human art and industry. “The beginning of building coincides with the beginning of textiles”.¹⁸ Inspired by the recreation of a Trinidad bamboo hut which he had seen at the Great Exhibition of 1851, Semper here breaks with the entire classical tradition of considering the *petite cabane rustique*, that is a building, as the origin of architecture, and instead located these origins in the *action* of space creation and the *craft*, weaving, that made this possible by providing woven curtains, carpets, tents etc.¹⁹

The transformation of ephemeral, textile and wooden tents, scaffoldings and altars into stone buildings marks the transition from building as a pre-architectural craft to the art of architecture.²⁰ It took place when its founders changed ephemeral festival apparatus – scaffoldings decked out with festoons and garlands, bands and trophies – into durable buildings because they wished to leave a permanent memorial of important religious or political acts. This transformation occurred because of the human drive to create a lasting, monumental record of important political and religious acts, situations and rituals. It consists not only of a change from ephemeral to durable materials. It also consists of dressing and masking: marble slabs, stucco and polychromy mask and dress the interior structure of buildings. Architecture, that is, is not an art of construction, but of disguise – as with all other human arts, including the theatre: “[d]er Karnevalskerzendunst ist die wahre Atmosphäre der

18 Semper 1860–63, vol. 1, 227

19 Semper 1860–63, vol. II, 276, Semper 1884a and b.

20 Semper 1860–63, vol. I, 227–229.

Kunst”, he famously observed, the lustre of carnival torches is the true atmosphere of art.²¹

Such masking has a major effect: it animates the exterior of buildings. Throughout *Der Stil* passages occur in which architecture is described as if it were a living structure, in which the artistic expression of the conflict between pressure and counter pressure animates the building’s appearance. In the case of Greek temples the use of a ‘veil of paint’ masks mechanic necessity and transforms them into “dynamic, even organic, forms, a matter of endowing them with a soul [...]”. Semper’s monumental architecture is a theatre of appearances.

Thus, Semper transforms this hypothetical primitivist aetiology into an anthropological theory which identifies the human innate urge to act and to mask reality, and thus to create art, what Gustav Klemm called the *Kunsttrieb*, as the origin of architecture as of any other art. That is, materially speaking the origins of building lies in the craft of weaving; but anthropologically speaking, the origins of the transformation of building into an art are to be found in the human instinct to disguise, play and to represent – and thereby to appropriate and survive.²²

In his pursuit of this anthropological inquiry into the origins of human material culture, he identifies two primary activities associated with the cradle of humanity: cannibalism and tattooage. In early cultures such as those of Polynesia, the tree trunks that hold up the textile hangings of tents are decorated with painted heads, symbolized as he puts it by monstrous human heads, whose origin must be supposed to be the trophy heads of enemies, killed in combat, sacrificed or eaten. They are painted in gaudy colours, imitating the artful tattooages of these tribes:

Der Zaun selbst besteht aus starken eingerammten Pfählen zwischen denen Zweige eingeflochten sind, die Pfähle aber sind an gewissen Stellen der Zaunwand, besonders an den Eingangsthoren, mit buntgemalten Schnitzwerken verziert und zu diesem Zwecke überragen sie die Reihe der Nachbarpfähle. Die Skulptur ist hier aus dem Pfahlschnitzwerke hervorgegangen. Die Pfahlköpfe sind durch fratzenhafte Menschenköpfe symbolisirt, deren Typus wohl ohne Zweifel die wirklichen Köpfe erlegter oder geopferter und gefressener Feinde waren. Dazu tritt eine bunte Polychromie, eine Nachahmung der Ornamente, die sich die Neuseeländer mit vieler Kunst auf die Haut tätowiren, in der That nichts weiter als eine Tätowirung der dargestellten knorrigen Popanze.²³

21 Semper 1860–63, vol. 1, 232.

22 See for instance Klemm 1855, 55: “Die Darstellung der Erfahrung führt den Menschen zur Kunst [...]. Die Darstellung von Ereignissen mit Hilfe von Musik und Tanz rief schon bei den Jägerstämmen Amerikas das Drama ins Leben”. In Klemm 1843–51, vol. 1, 214, he uses the term “Darstellungstrieb”. Cf. Hvattum 2004, 43.

23 Semper 1860–63, vol. 1, 240. See also 217–231.

Before the development of external masks, to be put on the face, head or entire body, Semper posits an earlier stage: that of tatouage, which is part of what might be called the primal scene of architecture, since it is closely related to cannibalism as a founding moment for human societies. Now tatouage occupies an intriguing intermediate position between the external artefact of the mask, and the bodily metamorphosis that is animal camouflage: it is based on a productive human action, but exercised on the body. Polychromy, Semper would go on to argue, is an externalization of tatouage, and the first manifestation of the principle of dressing and masking which for him characterizes all art.

Roger Caillois on camouflage as animal mimetism

The evolutionary account of camouflage as animal adaptive behaviour is not the whole story, however. The poet and historian of biology Roger Caillois provides a very different perspective. In his youth he was part of the circle of Breton. His early, pre-war essays on praying mantises and other picturesque insects can perhaps best be described as essays in the cultural history of biology. They question how certain insects, such as the praying mantis or the jellyfish, suggestively called *méduse* in French, can acquire such rich incrustations, over the centuries, of myths, beliefs, and theories like psycho-analysis.²⁴ In his pre-war work he connected camouflage, in animals and humans, to all kinds of psychopathology, and even to the desire to disappear into petrification and nothingness. His 1961 book on animal mimetism, *Le mimétisme animal*, far less known, is a much more sober affair. It is concerned with developing an understanding of camouflage that goes beyond evolutionary monocausalism. Caillois has only one argument for this, but one that is difficult to ignore: very often camouflage does not work in nature, for instance because the predatory animal can still smell its prey, despite its careful disguise as a piece of rock or a staring owl. The formal repertoire, and behavior, of camouflage is far too lavish, elaborate, varied and luxuriant to serve that single purpose of protective adaptation. As he put it: “Le camouflage est souvent inutile [...]. Il y a luxe de précaution, excès de simulacre”.²⁵

Instead, Caillois subsumes camouflage and mimicry under a much larger category, that of animal mimetism: the ability of animals to create forms that imitate traits of other animals or their environment, often without conscious intention or comprehension. Announcing Daniel Dennett’s recent arguments for competence

24 Caillois 1934 and 1964.

25 Caillois 1961, 49.

without comprehension among animals, he cites the case of the octopus. When its retinas perceive changes in light, or the approach of a predator, this perception acts through optical nerves on cells in its skin surface that adapt themselves to the changed colour of the sea water in which this animal dwells. In extreme cases the octopus changes into the shape of a jellyfish, or produces clouds of dark ink that drive away the predator. Another suggests the closeness of Caillois' animal mimetism to Gell's concept of animacy: that of the two circles on butterflies' wings. These are never perceived by the pursuing animal at the same time, because the butterfly, when immobile, keeps its wings closed, so the impression they create is not that of a living being, or eyes that see, but of an enormous, glittering immobile circle carried by a living animal, which appears to see without being an eye.²⁶ All this is very similar to Gell's analysis of Hindu devotees gazing into the eyes of the statues of their divinities, and claiming that the god returns their gaze, which only makes sense if we take the animation this applies in a limited, metaphorical sense, just as we often speak about the eye of the camera, which perceives without conscious seeing, without claiming cameras are alive.²⁷

The formal similarities between animal mimetism and human image-making raise the question whether there are any connections at all between the two. Caillois argues that there is a clear connection: what we would call its performative aspect:

[L]a connexion du mimétisme et des ocelles ne saurait être due au hasard. Il y a entre les deux phénomènes un lien qu'il convient de déceler. Je l'aperçois pour ma part dans le mécanisme de l'exhibition des ocelles fascinateurs. Il ne suffit pas qu'ils existent, il faut qu'ils apparaissent. D'abord invisibles, ils éclatent tout d'un coup. Le camouflage [...] le confond avec le milieu, il empêche qu'on l'en distingue. Alors soudain, là où il semblait n'y avoir rien, d'une sorte d'absence ou au moins de présence neutre, difficile à repérer, douteuse, surgissent des cercles énormes aux couleurs vives, invraisemblables, dont la fixité fascine. [...] L'insecte opère à la façon d'un masque à volets: à une apparence, il en substitue une autre, qui effraie. Mieux: à la place du néant, c'est soudain le visage de l'épouvante.²⁸

To clarify this essential point it may help to point out that the protective effect of circles on the wings of butterflies, or the fixed, immobile circular aspect that the eyes of owls can take on, does not reside primarily in its mimetic character, but in its dy-

26 Ibid., 73.

27 Gell 1998, 12–28.

28 Caillois 1961, 49.

namic, moving display. The predator is not terrified because it is shown real, seeing eyes, but by the sudden appearance of what it mistakes for a terrifying face.

Human image-making considered as camouflage

Can human image-making, considered against this background, be said to be like camouflage? I will run through a few cases, starting with formal similarities, and then moving on to similarities in camouflage strategies. There are numerous examples of the first category, which can be found in many periods and art forms. To name but one: the large eyes painted on Greek and Roman ships share a mimetic nature and animating if not petrifying, medusan effect with the eyes displayed on butterfly wings, which was already noted in Antiquity.²⁹

As for some examples of camouflage strategies employed in nature as well as art, there are clothes masquerading as wall paper or furniture, such as the dresses with large floral motifs the 19th-century fashion designer Worth made. These elicited comments from his clients that they did not want to look like wallpaper or chairs. In a much earlier example masks designed in Primaticcio's entourage combine head covers with camouflage.³⁰ Often the appearance of another animal is adopted to look like a fierce predator instead of a fearful trembling victim. This leads to many uses of zoomorphism; or, more generally, adopting the appearance of an animal by imitating its fur, eyes, face, claws or other parts. In particular, the use of polychromy in statuary and architecture should be mentioned, which is rarely adopted merely for decorative reasons, but very often to make the defenceless statue or building look frightening to looters, as in the Roman mentioned by Pliny and quoted by Semper, of the gaudy polychromy on Roman temples that frightened off Gallic invaders.³¹

Taking our cue from Semper's musings on the origins of human artefactual culture in cannibalism and tatouage, we could also argue that animal camouflage and human image-making meet in the mask. This is where art and nature come together, in the manmade artefact that is used to hide one's real appearance, look like another living being, frighten, terrify, or pass unnoticed, in short, to perform some of the same function as camouflage, but with different mechanisms. Again, Gottfried Semper was the first to theorize this relation. In *Der Stil*, in a move that was at the time entirely novel in its geographical scope and anthropological ambition, he connected the custom of early societies across the world, from the native Indians of North America to the Scythians, German tribes, the 'savages of New Guinea' or

29 Seligmann 1910, vol. 2, 145–150 and plates 105–116, as quoted in Caillois 2008, 539.

30 Cf. Viatte 2014, 99.

31 Semper 1834, 10.

Assyrian priests, to wear animal skins to chase away their enemies and terrify the believers into submission with the use of *Maskenschmuck*:

So verstecken die Indianer der Prairie bei ihren wilden Kriegestänzen noch jetzt ihr Haupt hinter fürchterlichen Thiermasken, dem Bison oder dem Bären entnommen. Aehnlichen Maskenschmuck findet man bei den Wilden der Südseeinseln. Diese scheusslichen Thiermasken treten bei den ägyptischen Priestern in feinerer Ausbildung als hieratischer Kopfputz des den Gott repräsentirenden Priesters auf. Es wurde die Thiermaske das frühe Symbol der Verhüllung, des Geheimnissvollen, des Schreckbaren. Oft blieb davon nichts als das besonders charakteristische Abzeichen des Thieres übrig; z. B. die Stierhörner als Schmuck der Mitra der assyrischen Herrscher [...]. Das furchtbare Gorgeion der die Aegis schüttelnden Pallas Athene ist eine Maske. Diese war schon lange in dem Leben und in den Künsten ein bedeutsamstes Symbol, bevor die dramatische Kunst sich desselben bemächtigte; auch hier sehen wir wieder das scheinbar Raffinirteste der antiken Kunst unmittelbar auf die ursprünglichste Natur geimpft.³²

Finally, next to the shared aspect of masking and disguising, camouflage and mimicry strategies in art and nature often share a performative aspect: the wings of a butterfly need to be opened to show the full illusion of a face with two eyes, just as tapestries or some mask varieties need to be deployed to show their full, animated effect. This had led some theorists to consider camouflage as a performative act, almost a visual speech act.³³

This brief overview – but the examples are endless – suggests a few underlying similarities between art and camouflage. In the first place, both are varieties of visual persuasion. They have come into being, or were made, to influence their viewers, make them afraid, chase them, or attract them. That is, both art and camouflage or mimicry can be considered to be actions depending on the dynamics of display to become fully effective, and whereas visual persuasion in the arts can often be directed at changing convictions and ideas, camouflage among living beings is aimed at changing behaviour. This point needs to be stressed, because many cognitive and neuro-scientists studying art today, Zeki for instance, define art far too narrowly as a visual record of perception, or as the record of visual analysis of the essential features of objects and living beings.³⁴

Second, the mimesis at work in art and camouflage can be both disguise and appropriation, as Semper had also noted in the passage I quoted earlier. Third, there

32 Semper 1860–63, vol. 1, 101.

33 Voss 2003.

34 See for instance Zeki 1999, 140.

is a performative aspect to both: camouflage works best in a dynamic, interactive situation, where eyes are suddenly revealed, textiles appear to move, or legs appear to be on the brink of stepping out. Finally, both animal and human camouflage are varieties of mimesis, or, to be more precise, of mimetic behavior. In mimicry the mimicking species copies the model's behavior.³⁵ In camouflage, shape x is made to look like y: a duck has to look like the surface of a pond, a crab like a rock. In art, stone is made to look like skin, and glass like a living eye. This goes very far, even to the extent when dead matter is made to look like a living being. In fact thinking about art as camouflage or mimicry forces us to leave aside the traditional idea that art is an imitation of the visual appearance of the outside world, and instead consider it as the imitation of, or even as a part of, persuasive animal *behaviour*.

We can take this further. These similarities also imply underlying similarities in behavior, dispositions and psychological features between animal camouflage and human image-making, which have only begun to be explored by ethologists.³⁶ They all suggest a much greater continuum between animals and humans than is traditionally assumed, and all question a rigid division between behaviour based on innate instincts and acquired through learning. In the first place, what we might call the emergence of *semiosis*, of the capacity to create visual features, and interpret them, as signs. Butterflies develop wings with circles that their predators mistake for eyes. Related to this, there is the cross-species continuum, already noted by Wallace, between animal and human capacities for creating and perceiving forms that suggest other shapes and animals. There is another continuum, noted by Semper, between very primitive behaviour, which he took cannibalism to be, its representation on the body, and its representation in masks; that is, the continuum between behaviour, adornment of skin surface, and making artefacts that all engage in forms of shape-changing that are close to camouflage in some of its functions, such as frightening off enemies or predators.

These continuums suggest a fundamental questioning of the traditional divide between instinct and learned behaviour, between human empathy and animal instinctual reactions; between nature and culture. As more is understood about the behaviour of primates and other mammals, or dolphins, or octopuses, it becomes clear that the divide between competence and comprehension, or between conscious and intentional action and instinctive patterns of behaviour, is not as clear-cut and absolute as we tend to believe, and does certainly not coincide with the divide between humans and other animals. The primatologist Frans de Waal for instance cites the case of the veined octopus, who lives in the Indonesian Sea, and spends a large part

35 Forbes 2011, 5.

36 Lestel 2008, 50-59; 101-167; 363-410.

of its days in creating camouflage, because it is a favourite food for many predators. These octopuses collect coconut shells, which initially offer only hindrance, because when the octopus transports them, stretching some of their arms into rigid limbs, they only draw attention to itself. But the octopus carries them to a safe lair, where it can later use them. So here we have the case of a mollusc collecting camouflage for future use, which at least suggests some capacity, conscious or instinctive, for planning and foresight.³⁷

Recently the nature/nurture debate has been completely upset by the work of evolutionary psychologists such as Spink or Blumberg, who have shown that many forms of animal behavior that are taken to be instinctual, are in fact rather inherited dispositions whose development is to a large degree shaped by environment, or even biography.³⁸ Instead of instinct they prefer to speak of developing systems. The masks and tatouage Semper discussed may illustrate this point: they are among the earliest human artefacts, and in emerging cultures the first masks were dead animal's heads; but they foster the capacity in humans to depict and represent, in brief to make an image in another medium. Dogon masks and their attendant myths illustrate this: masks are here made as a – highly stylized – copy of the animal that was killed, and worn by the killer to ward off the spirit of the animal: as Semper noted: representation and appropriation go very close together in such masquerading behavior.³⁹

To end this list, these human images created by the Dogon in the earliest stages of their culture suggest what is perhaps the most fundamental connection between animal camouflage and human image-making. They point to the fundamental importance of the ability to see in, and to see as. The creators of cave art and animal statuettes made very clever use of the shapes, relief, texture, and play of light and shadow of the materials with which they worked, often simply strengthening a contour, or changing a cavity into a shadow by means of a few simple lines (**Fig. 7**). This capacity presupposes the ability to see another shape in a shape; to spot the ambiguity of shapes, textures etc; and it is this very same ability which is both the source of camouflage and image-making.⁴⁰

37 De Waal 2016, 94.

38 Blumberg 2017; Spink 2011; West-Eberhard 2003.

39 Griaule 2004.

40 On seeing in and seeing as see Wollheim 1992, 46–75 and 2001.



Fig. 7: Chauvet (France), cave paintings, ca. 30,000 BCE (Photo: Wikimedia Commons).

Conclusion

To summarize very briefly: animal camouflage produces a range of forms, shapes, textures, features, as well as behaviour, that humans have adopted to decorate, dress and mask their artefacts. Formal elements used by animals to make them inconspicuous, unattractive or repellent to their predators, ranging from the texture and colour of fungi on decaying leaves to enormous eyes, are used by humans in their camouflage as well. They also adopt camouflage formal repertoire, in the persistent use of zoomorphism for instance; and they display camouflage behaviour as a social condition. Now underneath all this there lies, I believe, a common dimension, shared by animals and humans. The challenge is how to define that dimension. I would suggest it is defined by the shared primary competence of seeing in and seeing as: the capacity to see other shapes, features, and beings in lines, colour, texture, relief and the play of light and shade.

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